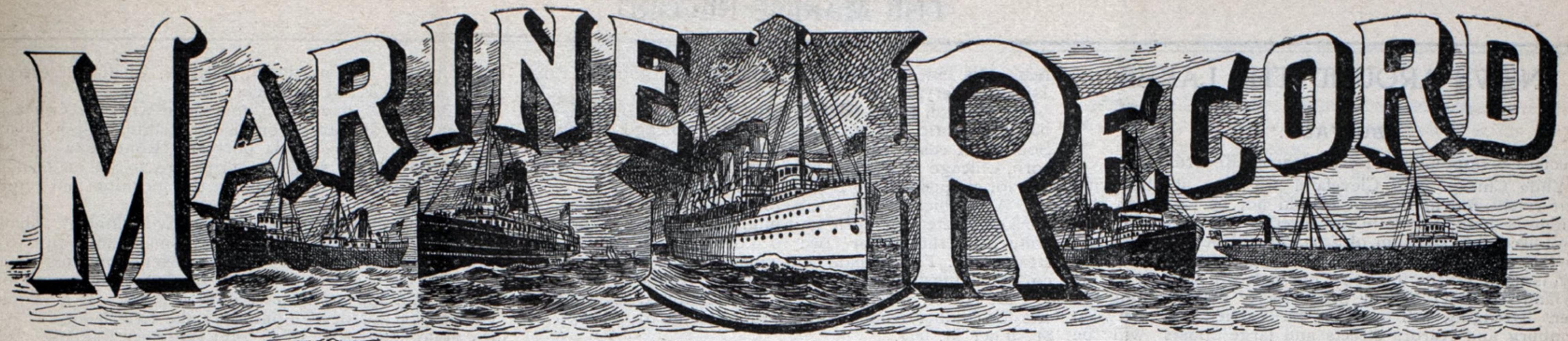


MARINE RECORD



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To consider and take action upon all general questions relating to the navigation and carrying business of the Great Lakes, maintain necessary shipping offices and in general to protect the common interest of Lake Carriers, and improve the character of the service rendered to the public.

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THE "SOO" RIVER RULES AGAIN.

June 30, 1897.

To the Editor of the Marine Record.

The article in last week's issue of the Record re- "Soo" River rules, came very near hitting the nail on the head only it did not go quite far enough and "the kicker" should have given it one more welt or blow.

In your editorial note you state that the rules are as the masters wanted them and good reasons would have to be shown for any change before they would be altered. That is all right enough and I am the second one to attempt to show why some changes are wanted.

For argument's sake I admit that the rules emanated from the ship masters themselves, though not quite as framed, or intended, even so, it does no good to perpetuate errors and if the masters erred in the speed limit, others have erred also. At the time the rules were formed we had but one lock at the "Soo" and it was inadequate for the traffic so that we had a continual jam or bunching together of boats, but now the conditions are changed.

We have now three locks at St. Mary's Falls Canal capable of accommodating nearly double the present amount of traffic and the consequence is that the bunching of boats is almost unknown. Again, Sailors' Encampment was so shallow that loaded boats could pass it only when the water was high, which was another cause for boats getting bunched up together, but now we have a good 18-foot channel and there is no reason for the boats being bunched up at that point any longer. In fact, the conditions have changed to such an extent nearly the entire distance of the river, that I fail to see any valid reason why the rules should not be changed so as to conform with existing conditions.

As the law now stands we have a time limit of 14 minutes from the north entrance of Little Rapids cut to the government pier at the "Soo." This is all open river and I again fail to see why there should be any time limit there when the channel is clear of boats.

The rules now act as a restriction to the traffic returns

of the American St. Mary's Falls Canal in the following way: A steamer passes the above light-house just as they are opening the lower gates to admit a waiting steamer. It would detain the steamer entering the lock, also boats in waiting above to lock down, too long to wait for the steamer coming up the river, so the gates are closed and the captain of the up-bound steamer sheers over for the Canadian lock in order to avoid delays, whereas, if he was or had been allowed to run full speed he could have passed through the U. S. Canal without causing much, if any, delay.

Where a number of boats, say fifteen, are waiting to start down the river at day light, it would according to the present rules, be three hours after day light before the last boat could leave the "Soo," a ridiculous waste of time, but if the first boats were allowed to start off full steam as far as the light-house it would require but a short time to get them all straightened down the river promptly and in good shape. There are many better correspondents than the writer and I would be pleased to hear from them. It is only by agitation that we can have wrongs righted.

A "SOO" RIVER PILOT.

ENTRY AND CLEARANCE OF VESSELS

NAVIGATING THE WATERS OF THE NORTHERN, NORTH-EASTERN, AND NORTHWESTERN FRONTIERS OF THE UNITED STATES OTHERWISE THAN BY SEA.

Treasury Department,
Bureau of Navigation,
Washington, D. C., March 5, 1897.

To Collectors of Customs and Others—Your attention is invited to the following provisions, concerning the abolition of fees for the entry direct from a foreign port and for the clearance direct to a foreign port of vessels navigating the waters of the northern, northeastern, and northwestern frontiers of the United States otherwise than by sea, of the act approved March 3, 1897, entitled "An act to amend the laws relating to navigation." The act will take effect July 1, 1897.

Sec. 9. That fees for the entry direct from a foreign port for the clearance direct to a foreign port of a vessel navigating the waters of the northern, northeastern and northwestern frontiers of the United States otherwise than by sea, prescribed by section 4382 of the Revised Statutes, are abolished. Where such fees, under existing laws, constitute in whole or in part the compensation of a collector of customs, such officer shall hereafter receive a fixed sum for each year equal to the amount which he would have been entitled to receive as fees for such services during said year.

EUGENE T. CHAMBERLAIN,

Approved:
J. G. CARLISLE, Secretary.

Commissioner.

LIFE SAVING SERVICE RULES.

General Superintendent S. I. Kimball has issued an order approved by Acting Secretary Spaulding with regard to the employment of substitutes in the life saving service which will go into effect July 1. The circular provides that whenever a surfman is absent from duty during the active season, except on account of sickness or other physical disability, for a period other than between sunrise and sunset of one day in each week the keeper will employ as a substitute the best qualified person obtainable. The substitute is to be compensated by the surfman at the regular rate of pay, and keepers will certify all such transactions to the district superintendent, who will pay no surfman for whom a substitute has been employed any part of his wages until a receipt is presented showing the substitute to have been paid. A similar rule

will prevail with regard to keepers, and whenever it is made to appear to the satisfaction of the war department that absence on account of sickness or other physical disability or either keeper or surfman will be permanent or of long duration, the position may be declared vacant and filled in the usual manner. No substitute employed under this circular will be entitled to the benefits provided by the act of May 4, 1882, nor will his widow and children, in the event of his death, receive the bonus paid in the case of regular surfmen.

CHANGE OF LIGHTS-COURSES.

To the Editor of the Marine Record.

June 28, 1897.

It is my opinion that changing the color of Pipe and Frying Pan lights would be a mistake on account of the lights on shore as well as the number of lights shown by vessels at anchor in that locality.

I also think that it would be a mistake to limit the speed of boats across Lake St. Clair. In the spring of 1890 a number of captains, the writer included, met and discussed the subject of running slow or fast across the flats at Grosse and Bar Points, and we decided to experiment by running full speed across said flats and on certain ranges and all will admit that we had deeper water from that time till the new channel was opened, than was ever known before.

My belief is that deep draft boats running fast in shallow water planes or plow, off the lumps and the refuse either drifts to one side or lodges in the holes.

If the captains of steamers will pay strict attention to the following they will make good courses on Lake Superior, viz.:

From Soo Canal on ranges, W. by S. & S.

From Eagle River to Devil Island, W. by S. & S.

From Devil Island to Eagle Harbor, E. by N. & N.

To Soo Canal on canal ranges, EN. & N.

From Topsail Island on ranges to canal, NW. by W. & W.

From Whitefish Point to Manitou Island, WNW.

From Manitou Island to Whitefish Point, E. by S. & S.

From Soo to Topsail Island on ranges, E. by S. & S.

From Pt. Au Par to Round Id. on ranges, SW. by W. & W.

From Eagle River to Lapoint, SW. by W. & W.

The same from Devil Island to Duluth.

Range the 2 points on the south and west end of Magdalene Island, when coming out of Chauquamegon Bay will give a true course to Eagle River.

The courses given above are not true, but parallel courses showing the difference between some landmarks and lake courses.

If captains will carefully note all river courses they can make true courses from and to almost any places on the lakes.

I could give parallel courses for all points, but think it will do more good to set officers thinking and figuring for themselves.

ONE WHO IS IN HARNESS.

(While generally in accord with the views expressed by the above correspondent, we may point out that the courses given in his letter may be compass, corrected compass, magnetic, or true as he has found them or now finds them in his own vessel, and, from the marked success which he has had during his career they are no doubt positively accurate. It should be stated, however, and it is well to consider, that no two compasses act alike, especially in iron or steel vessels. To be safe this should always be the assumption until correct deviation tables or a curve had been properly ascertained after the adjustment of a compass.—Ed.)

THE MARINE RECORD.

NEWS AROUND THE LAKES.

BUFFALO.

Special Correspondence to the Marine Record.

While Chicago and Cleveland are busy at improving their rivers and harbors, it should not be forgotten that Buffalo is doing a trifl in this direction also. In the matter of dredging, the sum of \$203,370 will be expended and bonds for the half of this amount or \$101,685 have already been issued. Of the total cost one-half will be paid by the city and the other half by the property owners along the river. Dredging will at once be carried on between Hamburg and Aurora streets and large boats will be enabled to pass Michigan street bridge. It is well known and within the memory of those now living, when Buffalo River was only a creek, and could be forded by barefooted boys not far beyond the Michigan street bridge. Since then, however, the deepening of the channel has constantly gone on. Little by little the creek has given place to the river. The mud has been taken from the bottom, until now the channel is so deep that the largest vessels on the lakes can get to the Michigan street bridge. With the deepening of the channel, the straightening of the river, and the new breakwater and the proposed new excursion docks, Buffalo promises to be in good shape for the business of its water front.

The officers of the Buffalo harbor of the Masters' and Pilots' Association make complaint against an advertising solicitor who has been engaged by that body and at other ports on a publication somewhat similar to that issued every year by the Shipmasters' Association. They say that he has collected between \$300 and \$400 from business men who have taken space in the publication, but that they cannot obtain an accounting from him. Grand Captain Van Keuren came up from Kingston, N. Y., early last week to bring Mather to account and he agreed to straighten everything out in a day or two. So far he has failed to do so, and now cannot be found. This question of masters, pilots and engineers publishing their list of names and getting tradesmen to pay for same is getting quite chestnutty and lowers the status of the several organizations. It is more especially the case when the agent decamps or is proved a fraud, as Mather evidently appears to be.

The Western Transit Co. has placed in commission the old steamer Badger State, which with the Empire State and Idaho was supposed had been laid up for the season. The Badger State takes a cargo of package freight to Chicago.

There was received here last week 733,000 bushels of wheat, 994,000 bushels of corn, 2,476,000 bushels of oats, 193,000 bushels of rye, 238,000 bushels of barley, 50,000 bushels of flaxseed, and 409,126 packages of flour. Shipments of coal were 43,943 tons.

Among the vessels about to be placed in service here are the steamers Cuba, Centurion, Thomas W. Palmer and Livingstone, all first-class vessels; and yet paying freights had not been found for them previous to this date. The owners of the Livingstone, Palmer and Centurion are to be mentioned as having nerve or finances enough to hold off chartering until they could procure a freight that would meet the ordinary disbursements.

Tonawanda has all of the traffic that she can handle this week. Some of the docks are full of lumber, so that boats will be delayed three or four days in discharging their cargoes.

The following named masters have been sworn in at the custom house here lately: Charles McCrea, excursion steamer Gazelle; William C. Kelderhouse, schooner H. W. Sage; John Eberlein, barge J. H. Rutter.

It is expected that the Cleveland and Buffalo liner State of Ohio will be repaired and back on this route next week. If this is so the Detroit Dry Dock Co., or at least their engineering department know how to hustle. I would not be surprised, however, to see her around again in a few days knowing that Mr. Charles Calder, of the Engine Works, can accomplish a good deal when he tries.

CHICAGO.

Special Correspondence to the Marine Record.

Capt. John Prindiville chartered the steamer C. H. Green and consorts Our Son and Genoa for corn to Port Huron at 1 cent.

The Independent Tug Line has sent the tug Commodore Jack Barry to Duluth to join its fleet there. This change is brought about by the increase of towing at Duluth.

The L. M. & L. S. Line steamer Manitou, ashore near Harbor Springs, was floated on Wednesday afternoon, with the assistance of the tug Geiken and small steamer Hazel.

At the Chicago Ship Building Co.'s dock the steamer Myles was in dry dock for a new crank shaft, the steamer Parks Foster had her decks calked and received some repairs.

The steamer Charles McVea was in dock for repairs to stern bearing and to have a leak stopped; the steamer I. M. Weston had her wheel refastened and her stern bearing repaired; the tug J. J. Dore received a new wheel and some calking, the schooner Minnie to have a leak stopped.

William J. Miller, aged 49 years, died at his residence, 870 Sheffield avenue, Thursday morning, June 24. He was the eldest son of the late Andrew Miller, shipbuilder of Oswego, N. Y., and was for several years prior to his decease in the employ of Miller Brothers' Dry Dock Co., Chicago, as their collector. He was much respected by the marine fraternity. He leaves a widow and two daugh-

ters. His funeral took place Saturday afternoon at Rose Hill Cemetery.

J. J. Rardon & Co. chartered the steamer E. B. Hale and barge Adriatic for corn from South Chicago to Owen Sound at 1 cent. Steamers R. B. Ranney and Aragon for corn, Chicago to Buffalo, at 1½ cents, steamer City of London for clipped oats to Buffalo at 1½ cents.

J. A. Calbick & Co. chartered the steamer Toltec and consort Miztec for corn to Buffalo at 1½ cents, schooner John Kelderhouse for corn to Port Huron at 1 cent, steamer W. P. Ketcham and consort Geo. B. Owen for corn to Kingston at 2½ cents, steamer Kalkaska for corn to Port Huron at 1 cent. They also chartered several vessels for lumber from Duluth and Ashland to Chicago at \$1.50 per M. feet.

W. H. Wood, of the firm of J. A. Calbick & Co., accompanied by his wife, left here last week on a pleasure trip to Buffalo by lake.

H. W. Cook & Co. chartered the steamers New Orleans, Panther and Fred Pabst and barge Massasoit, for clipped oats to Buffalo at 1 cent, steamer Westover and consort Bliss for lumber, Manistique to Chicago, at \$1.00 per M. feet, steamer Leland for lumber, Ashland to Chicago, at \$1.50 per M. feet, barge Charles Wall for ties, Madeline to Chicago at 8½ cents, steamer Sanilac for ties, Providence Bay to Chicago, at 5½ cents, steamer Charles Reitz and consort John Mark for lumber, Manistique to Chicago, at \$1.00 per M. feet.

The Wisconsin and Michigan Car Ferry Line, which has been operating between South Chicago and Peshtigo, Wis., has passed into the hands of the Big Four system. This will make an entire change in the affairs of the Wisconsin and Michigan ferry line, of which J. J. Coleman, formerly of the St. Paul Railroad in Milwaukee, is the general manager. The intention of the Big Four is to form a lake connection between Benton Harbor, where it maintains extensive rail terminals, and Manitowoc, and the absorbed car ferry line will be used for that purpose, the Big Four operating it in connection with the Wisconsin Central and Northwestern lines. Ferry boats, owned by the line, will be diverted from the present run from Chicago and Peshtigo to Benton Harbor and Manitowoc, thus forming for the northwest a freight outlet to the eastern seaboard and through the southeast.

News has just been received here that the Manitou was ashore near Harbor Springs, Little Traverse Bay. The passengers were landed and wrecking tugs telegraphed to immediately. The Favorite and Onaping will release the Manitou, one of the finest passenger steamers out of Chicago. No ingenuity or expense will be spared in getting the big boat afloat again. The casualty is due to a heavy fog.

Capt. Charles McIntosh, of the steamer City of Chicago, who has been ill aboard the boat for a week, was taken to his home in Detroit, Monday. He is suffering from kidney trouble and his condition is serious. Capt. McIntosh is one of the oldest and best-known captains on Lake Michigan. He has been with the Graham & Morton Co. ten years, and previously had command of the Goodrich Line side-wheel steamer Sheboygan for a number of seasons.

The Christopher Columbus is in evidence here again and meeting with a great patronage on the Milwaukee route. The weather is now warming up and I believe that a good excursion season is yet ahead of us though rather slow in getting along considering that it is now well past mid-summer. Beginning Wednesday, high-class operettas are to be given on the steamer between Milwaukee and Chicago, under the name of the Columbus vaudeville theater and roof garden. There will be two performances daily, the first on the trip to Milwaukee and the second on the return trip.

CLEVELAND.

Special Correspondence to The Marine Record.

The large shipbuilding and dry dock plant at Lorain is being pushed vigorously toward completion by the Cleveland Ship Building Co., and it will now be but a short time before work will be carried on at that point and the company have every opportunity to expand, a feature which was positively denied them at this port. Although only one hour's ride from their present location, there is certain to be a large number of workmen, skilled mechanics and others of the staff who will prefer residing near the works, hence Lorain's gain will be a loss to Cleveland, however, if this port ever gets Chicagoized enough, Lorain will then become a suburb of W. Cleveland, so that the incorporation will inure to the benefit of all interests.

Frank Morrison, compass adjuster, manufacturer and repairer of nautical instruments, has had a very busy season so far and orders are booked far enough ahead to keep him stepping lively well into the future. Mr. Morrison has been doing the bulk of the work in adjusting compasses and fitting out vessels with nautical instruments for the past several seasons and his services as well as workmanship seem to meet with the unqualified approval of masters and owners. Besides being thoroughly conversant with the laws of navigation as it affects compass needles, Frank is an optician, also a good practical mechanician.

The annual meeting of the Pittsburgh & Lake Angelina Iron Co. was held a few days ago, and all the old officers were re-elected. They are as follows: Directors—James Laughlin, Jr.; John W. Chalfant, George M. Laughlin, B. F. Jones, Jr.; William G. Mather, W. G. Pollock, D. C. Phillips, E. R. Perkins, Alfred Kidder. President, James

Laughlin, Jr.; vice president, John W. Chalfant; secretary and treasurer, W. G. Pollock.

Arrangements have been concluded whereby either the steamer City of Parry Sound or Atlantic will be placed on the route between this port and Rond Eau for passenger and freight service. Trips are to be made daily, the steamer leaving Cleveland in the morning and returning at night.

Sixty miles in two hours and fifty-five minutes! That is the new record the City of Buffalo made in a run from Cleveland to Put-in-Bay with an excursion party on Thursday last. She came back in three hours and nine minutes, and appears to have done it easily. It is claimed that the like was never done on Lake Erie before. "And she can do better than that," said Engineer Randall. "She will beat that time going up tonight." Still that is good enough speed for these days, especially as there are no other big boats on the lakes that are doing anything of the sort. She left her wharf at Cleveland at 8:35 a. m.; Cleveland breakwater abeam at 8:51; Black River at 10:02; Middle Island at 11:29; Gibraltar (check), 11:46; and landed at Put-in-Bay at 11:53. This is certainly a good record of speed.

The United States marshal has placed a writ on the small schooner Cascade on a wage's claim and the case is to be heard August 2d, in the District Court.

Shortly after launching, or in fact within a few hours of that time, the Cleveland Ship Building Co. had the large new steel steamer Crescent City turned, with her head in an opposite direction to that in which she was built. This is a general custom of the shipbuilders and it not only greatly assists the compass adjuster, but renders the navigation of the vessel much safer on her first few trips as the compasses always work with a steadier deviation after the heading has been reversed in this manner.

In addition to his duties of maintaining and improving rivers and harbors within his district, Col. Jared A. Smith, Corps of Engineers, U. S. Army, has also been saddled with the duties of the tenth light-house district, extending from Detroit River to Ogdensburg, N. Y. With so many improvements, repairs and new work on hand, this was too much for any one officer to carry out and the Colonel's health has been somewhat giving way of late under the strain. It is well known that there is more work being carried on in this district at present than ever before. When the change was made it was thought that the duties of light-house engineer would be placed in Major Symon's office at Buffalo, but as that officer is also loaded down with a vast quantity of new work, the detail has been given to Major Staunton, Corps of Engineers, U. S. Army, with headquarters at Oswego, N. Y. All interests at this port will be pleased to learn that Col. Smith has in a measure been relieved of what must have been a very arduous duty, besides he will now have more leisure to devote to his more legitimate duties of river and harbor work.

With nearly 800,000 tons of ore sold so far this season there is now a slight lull in the ore market. The feeling is prevalent that a brisk fall trade with fairly good freights will somewhat pull up for the slack times and low freights experienced up to date. The vessel owners have placed but little tonnage to run all season and with a raise in grain rates, iron ore charters will surely be made at better figures than are now being paid.

The ore docks here are certainly piling up and it would seem as if cargoes must go direct to furnaces or the docks will soon become overloaded so that delivery will be refused. A tour I made yesterday along the old river bed showed that it must be keeping the dock managers guessing where to put the ore on arrival of vessels and their discharge.

This week the Ship Owners' Dry Dock Co. gave the schooner North-West of the Corrigan fleet a thorough overhauling. She was re-calked and considerable new work as well as repairs was put on her, so as to keep her up in the usual good style which the owners of this line always maintain.

At the Cleveland Dry Dock Co.'s yards the handsome steam yacht Comanche was in this week for bottom cleaning, preparatory to a long summer's cruise. The steamer Cormorant is next due for overhauling, calking and all necessary repairs.

The freight market is stiffening up somewhat and better rates will surely prevail within the next few days, already 60 cents is being considered on September charters from Duluth to Lake Erie ports, while the going rate at present is but 50 cents.

Mr. W. Livingstone, of Detroit, visited this port on Tuesday and was seen in vessel-owning circles. There is no man on the lakes better thought of as a vessel owner or business associate than is Mr. Livingstone, and I have yet to hear the first word derogatory to his equitable, kind temperament.

Data covering a period of twenty-five years, compiled from the weather bureau records by the local forecaster, shows the weather here during July has been as follows: Mean or normal temperature, 71 degrees. The warmest month was that of 1887, with an average of 76 degrees. The coldest was that of 1887, with an average of 69 degrees. The highest temperature was 96 degrees on July 18, 1878. The lowest was 48 degrees on July 10, 1895. The average number of clear days was 12, partly cloudy days 14, cloudy days 5. The prevailing winds have been from the southeast. The highest velocity of the wind was sixty-six miles from the west on July 26, 1896.

Although the shipyard, dry dock and consequent industries of the Cleveland Ship Building Co. will soon be removed to Lorain, the main offices will remain in Cleve-

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land. In any case, with the new electric line in running order, one hour from the center of the city to the ship-yard will be all the time required to reach the extensive new plant at Lorain. I wish to congratulate our western neighbor on capturing so important an industry and it is likely that others will follow.

DETROIT.

Special Correspondence to the Marine Record.

Mr. F. A. Kirby, superintendent of the Wyandotte ship-yard, tells of a fast little vessel tried at this port in 1875. They called her Myrtle. She was a screw steamer 70 feet long and 8 feet wide, and it was claimed for her that she could show her heels to anything then afloat. Perhaps she could for a very short distance. The experiment here was made for the purpose of testing propellers. Several trials were made with different screws. One would vibrate in a lateral direction, another would lift her up and drop her down; still another would shake her in all directions at once, and thus it went. For a mile she traveled at the rate of 22 miles an hour, but no better; she could average 18 to 19 for a longer run, but not a long run at that, because she did not have the coal capacity.

Very little credence is placed in the story that the B. & O. Railroad Co. intend operating car ferries between Sandusky and this port. It was further stated that the Detroit Dry Dock Co. were getting out plans and figuring on the construction of two large steel ferry boats each to carry thirty railroad cars, but this rumor the dry dock company deny. Whatever may eventually come of it the reports of a few days ago is the old yarn re-vamped, but I can learn nothing about the cause or reason for springing the report again just at this time.

The Naval Reserve Corps here is in a lively condition and a large number of applications for enlistment are now on file. It is expected that the corps will muster about one hundred strong for this year's training cruise. Last year the number was sixty. Assistant Secretary of the Navy Roosevelt and his aide, Lieut. J. H. Gibbons, will remain with the corps during their annual drill, leaving here for Mackinac on July 10, on board of the U. S. S. Michigan.

Mr. Davey, employed by the Michigan Stove Works, has applied for a patent on an appliance for blowing steam whistles by electricity. The inventor, who has been a student of electricity for some years, conceived the idea that instead of the rope used by hand on lake vessels for pulling the whistle, a simple electrical push-button appliance could be made to do the work. He found that with whistles, where the pressure was only 60 to 70 pounds, this was easy, but on the larger lake vessels, with a pressure of over 100 pounds, it was a different matter. He then invented a valve which is so ingeniously constructed that steam pressure even to 150 pounds may be released with such ease that the use of his electrical appliance is made absolutely certain and safe. Several vesselmen have seen the valve and whistle in operation and declare them practical and of much value. The ferry steamer Ariel used the electrical appliance during last winter and it gave full satisfaction.

The whaleback steamer Neilson, with consort Whitworth in tow, parted her wheel chains in the Lime Kiln Crossing on Tuesday. In trying to avoid a collision with her consort the Neilson got the tow line in her wheel. She anchored in the passage and sent for a diver, who promptly cleared the propeller.

The Wallula got into trouble near Amherstburg and required the services of the wrecker Saginaw with steam pumps and divers. The outfit left here on Tuesday and the Wallula being sunk in shoal water it is expected that she will soon be afloat again.

The Myers' diving bell and the extensive wrecking outfit which accompanied it, which were tied up by attachments last fall, were sold by the sheriff at Alpena on Monday, to A. F. Price, of Fremont, John E. Wood, of Cleveland, and Lewis T. Kline, of Alpena. This is the outfit which was on the Jenks last summer, attempting to locate the wreck of the lost steamers Pewabic and Norman. The new owners of the plant have not as yet decided what they will do as regards working it on wrecks.

The Canadian officers are laying plans to catch the river robbers who have been committing bold depredations along the Canadian shore between the foot of Belle Isle and the head of Lake Erie during the past three months. Emboldened by the ease with which they have been able to elude the officers, they have dared to take nearly anything that they can carry away in their boats. Their latest robbery has been to take a number of sheep after killing them and conveying them in boats to this city. It was reported to High Constable Masters at Sandwich that a large quantity of chickens and other fowl were stolen from farmers on the front in Malden and vicinity. The pirates had been seen early Sunday morning passing Sandwich in boats. It is claimed that they use the boats for smuggling goods into Canada as well as for pirating. Constable Masters says they have three boats, one of which is a scow manned by four persons, a two-mast sail boat and a yawl boat. There are about 10 men in the gang, the constable believes.

The Wilson line is getting into all kinds of lumber this week. Besides the Wallula sunk off Amherstburg, the schooner Yukon grounded hard on Lake St. Clair just clear of the canal while bound down with nearly two thousand tons of ore. The wrecking tug Wales, owned by Parker & Millen, was immediately dispatched to her assistance and it is now expected that she will be afloat again by Thursday night, at latest. The steamer Yakima

gave the Outhwaite a blow while entering port at Ashtabula on Tuesday and the repair bill for same will be quite a little sum. Three casualties in one week looks a little hazy for the masters.

NOTES AND QUERIES.

The small passenger steamer Lena Knoblock, of Erie, Pa., has been purchased by Capt. Davis, of Chicago, who will sail her to the Gulf of Mexico, by the way of Chicago and the Mississippi.

Frank Weiman, a fireman, who shipped on the steamer R. L. Fryer at the Soo, on the 22d inst., jumped overboard off the Portage ship canal on Saturday. The body was recovered and taken to Sault Ste. Marie. The deceased was a member of the firemen's union, of Buffalo.

In addition to the former slight recovery of cargo, a freight truck and several tons of copper were taken into Alpena from the sunken Pewabic on Tuesday morning by the steamer Root. The truck is in a good state of preservation, notwithstanding it had been under water thirty-two years. Diver Smith has had a second, clam grapple made which works well in picking up the broken cargo of the Pewabic.

The master of the American sailing ship Frank Pendleton has edited and printed a small newspaper at various times during a trip and this he has done for years past. The nautical journal was also most interesting reading. Now we have a publication issued daily aboard the steamer Manitou, which runs between Chicago and Mackinac. The Light, as the pamphlet is named, contains news concerning passengers and crew, and the points of interest and occurrences aboard ship. Capt. Allan McIntyre informs the passengers through the Light about the weather probabilities in the following strain: "Conditions are favorable for light southwest winds tomorrow, but it may blow from the north, northwest, west, southwest or south. Conditions are also favorable for clear weather; but there may be a fog. I know a thing or two about weather forecasts myself."

The Detroit Graphite Manufacturing Co., of Detroit, Mich., has recently acquired the title to the graphite mines in Northern Michigan, from which they have been making their Superior Graphite Paint. The ore from this mine produces the best pigment for paint so far found. This pigment is reduced to a fineness which the manufacturers state has never before been obtained from graphite and none of the graphitic carbon is taken from it to be used for other purposes. It is unassailable by acids, or chemicals of any kind and is of an absolute uniform quality. The Superior Graphite Paint made by this company has obtained an enviable popularity.

OBITUARY.

James McMillan, the submarine diver, died Saturday night, June 26th, suddenly of heart disease at his home, 160 Avers avenue, Chicago. His last job, which he completed but a few hours before his death, was raising the Chicago, Milwaukee & St. Paul R. R. engine and tender which had fallen into the Chicago River at the railroad company's Kinzie street bridge about a week before. The deceased was a man of the strictest integrity and was held in the highest esteem by those who had any dealings with him. He leaves one daughter, the wife of Dr. G. H. McClure, of Chicago.

Mr. McMillan, better known as "Scotty," was the pioneer diver of Chicago, having followed the perilous occupation of raising sunken vessels, grappling for drowned bodies and doing "Crib work" in the river and harbor for the last fifteen years.

"Scotty" was known to nearly everybody in marine circles, from the captain of the finest lake steamer to the poorest wharf rat who loiters about the shipping. Open-handed and genial, he had helped many a stranded sailor, and the news of his death was received with rough but sincere expressions of regret along the river and harbor front. He was born 61 years ago in Campbelltown, Scotland, and came to Chicago in 1851. In 1858 he married Catherine Brooks, who died five years ago. During the first years of his life in Chicago Mr. McMillan followed the occupation of a sailor, but later took up the more perilous work of diving. There was not a nook in the Chicago River or harbor that he did not know and he often remarked that he was so used to walking under the surface of the water that he did not feel natural when he was in the open air.

Mr. McMillan belonged to the Grand Army of the Republic, having been a member of the 16th New York Cavalry, detailed to guard the avenues of escape when President Lincoln was assassinated.

His funeral took place Tuesday at Rose Hill Cemetery, and was largely attended by many marine men and old friends of the deceased.

SOO RIVER REGULATIONS.

At the request of vesselmen the signaling and stopping of boats by the government patrol service on the river at the Sailors' Encampment has been abolished. Now that there is a channel 300 feet wide at that point the vesselmen claim that there will be a greater degree of safety in proceeding under check and keeping under way than in making a stop at the danger points and thus temporarily losing control of their craft. The speed regulations will, however, be enforced as in the past.

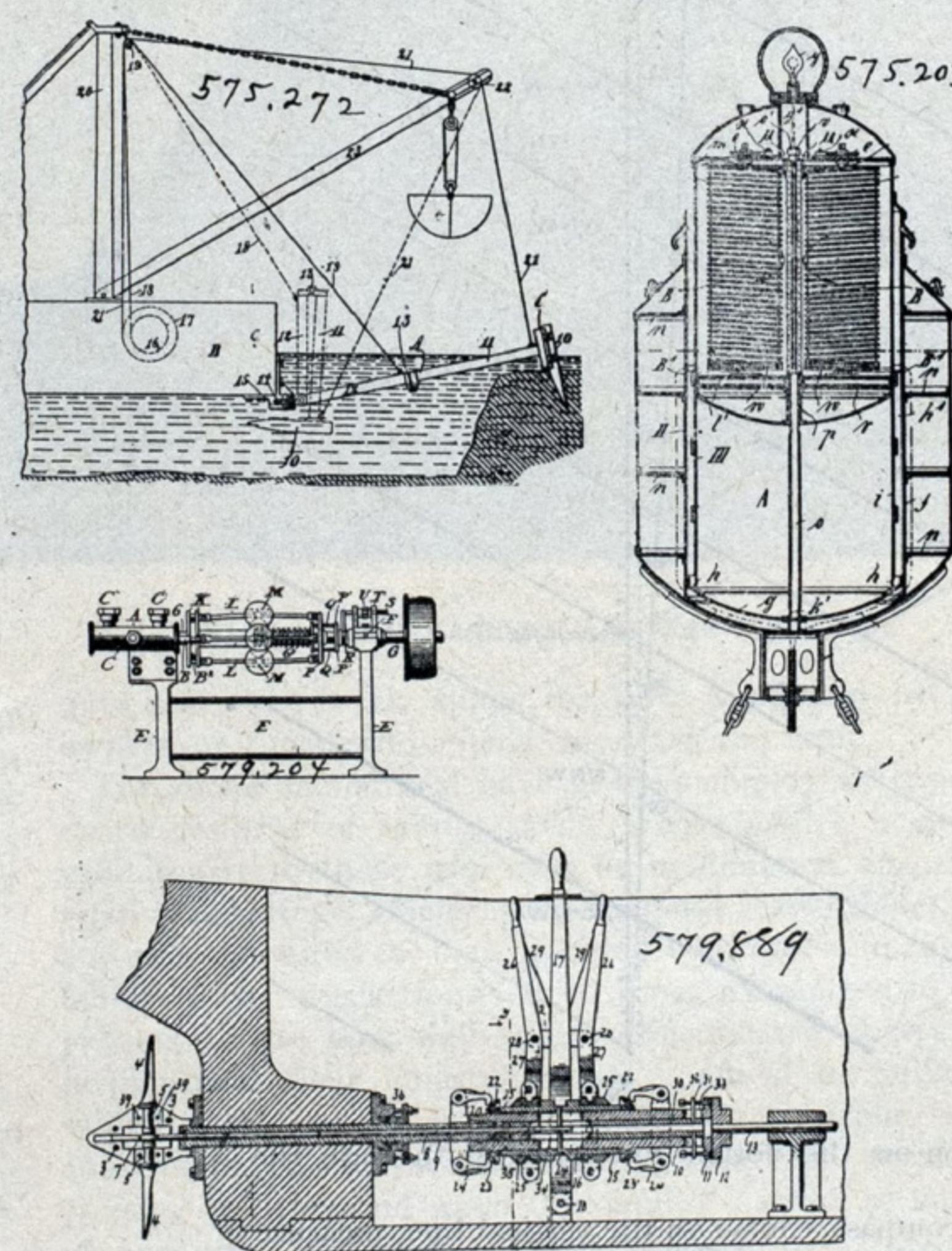
THE LITTLE PERWINKLE.

The steamer Periwinkle, which caught fire and was burned to the water's edge at Toledo on Monday, was a boat with a history. She was built in Buffalo in 1864 for use in the civil war. She was named the Commodore Perry and did service as a revenue cutter. She cruised around the lakes in that capacity till 1884, when she was transformed into a propeller and put into the summer excursion business, working around Buffalo and Saginaw most of the time. She ran last year on the Monroe and Toledo route, but had done nothing so far this year. She was libeled last fall by several parties and sold. She was bought by M. I. Wilcox, of Toledo, who sold her back to the original owner, Capt. W. P. Fletcher. The vessel was worth in the neighborhood of \$5,000, but her market value was scarcely \$1,000. It is said she was insured for \$3,800. The Periwinkle was a vessel of 412.67 gross tonnage and 267.18 net tonnage. She was 162.5 feet in length, 25 feet breadth and 10 feet depth.

STORY DENIED.

Vice President John Bagley of the Wisconsin & Michigan road denies the reported sale of the road and car ferry line to the Big Four, and scouts the rumor that the Peshtigo-South Chicago route is to be abandoned, as this would render useless a line of new track extending from Peshtigo to Fathom Junction on the Soo road.

General Freight Agent Cost of the Big Four systems, when asked concerning the denial by Vice President John Bagley of the Wisconsin & Michigan road of the story sent out on Monday from Milwaukee to the effect that the Big Four would, on July 1, come into possession of the car ferry line from South Chicago to Peshtigo, and would then change it to run between Benton Harbor and Manitowoc, very promptly said that the denial covered the facts. The Big Four has no arrangement of the kind indicated in the Milwaukee dispatch, and the Wisconsin & Michigan



RECENT MARINE PATENTS.

(For description see page 6.)

LAUNCH OF THE BLACK ROCK.

The steamer Black Rock was successfully launched from the yards of the Jenks Shipbuilding Co. on Saturday afternoon last. Her principal dimensions are, 254 feet long, 42 feet beam and 17 feet depth of hold. Her engine is 25x50x40 and the boiler is 13½x12 feet. The Black Rock will be placed in the copper trade from Lake Linden to Black Rock and will be commanded by Capt. Edward Reynolds.

PRACTICAL METHOD FOR FINDING COMPASS ERRORS.

ARRANGED FOR MASTERS AND PILOTS ON THE GREAT LAKES.

BY JOHN ROSS, LATE MASTER LIGHT-HOUSE TENDER 9TH DISTRICT.

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CHAPTER VI.

NAPIER'S DIAGRAM.

Napier's Diagram (see plate) affords the best means for applying compass deviations. No special skill or aptitude is required for the laying down of the deviation

of plain lines, these systems crossing each other at the divisions marked by the points of the compass, the dotted lines being inclined downward as they are drawn to the right. At the side of the vertical line are indicated the compass points, also the number of degrees from North to East and West, and from South to East and West. Easterly deviations are laid off to the right from the vertical line and westerly deviations to the left.

If, as is shown in table 1, the deviation has been determined on the exact points of the standard compass, to lay down the deviation curve, with a pair of dividers take off on the scale of degrees, alongside the vertical line, the number of degrees of deviation on any one of the ship's headings, and then lay down this measured

all the points of the ship's head have been marked, draw a fair curve through the marks; and the deviation curve for the standard compass is then complete.

If the deviations have not been determined on exact points of the compass, take the point on the vertical line which corresponds to the ship's head when the bearing was taken, and from this point lay off the deviation on a line parallel to the dotted line.

TO OBTAIN THE MAGNETIC COURSE FOR ANY COMPASS COURSE.

On the vertical line note the given compass course; from this point with a parallel ruler lay a line parallel to the dotted line as far as the curve; from this point on the curve return to the vertical line on a line parallel to the plain line. The point arrived at on the vertical line will be the magnetic course desired.

TO OBTAIN THE COMPASS COURSE FOR ANY MAGNETIC COURSE.

On the vertical line note the given magnetic course; from this point with a parallel ruler lay a line parallel to the plain line as far as the curve; from this point return to the vertical line on a line parallel to the dotted line. The point arrived at on the vertical line will be the compass course desired.

Bearings are taken from the diagram in the same manner as courses.

From the deviation curve a table showing the compass course (or bearing) corresponding to the magnetic course (or bearing) for each quarter point of the compass may be made. And also, if it be desired, a table showing the magnetic course (or bearing) that corresponds to the compass course (or bearing) for each quarter point. It will be found that a table arranged to quarter points will answer in practice, for if a course between the quarter points be desired it can be obtained by interpolation. When extreme accuracy is necessary, or if a vessel is steered to degrees, take the course directly from the curve.

The deviation table should be kept where access to it can be had at any time.

The deviation curve shown on Napier's Diagram represents the deviations in table 1.

(TO BE CONTINUED).

RECENT MARINE PATENTS.

575,203. Apparatus for Calming Seas by Distributing Oil Thereon. Albertus J. van Beek, Buda-Pesth, Austria-Hungary. Filed June 20, 1896.

An apparatus for the calming of seas by distributing oil, comprising an oil-reservoir having an outlet and means for forcibly discharging the oil, with electro-magnetic mechanism controlling the operation of the forcing means.

A floating buoy provided with an oil-reservoir having an outlet and means for forcibly discharging the oil, with electro-magnetic mechanism controlling the operation of the forcing means, and an electric circuit from said electro-magnetic mechanism to the shore or other distant point.

A buoy provided with an oil-reservoir, an outlet for the oil therefrom, and a piston in the reservoir, the said piston being connected with a tube having a nut, in combination with two cylinders provided with right and left-handed screws, respectively, to engage with the said nut, spiral springs in the cylinders and electric escapement gear controlling the action of the springs.

579,204. Governor for Marine Engines. Alexander Wilson, Hull, England. Filed Feb. 10, 1896.

An apparatus for governing marine engines to prevent them racing, consisting of a large cylinder A' and a small cylinder A with piston-valves B and D and inlet and outlet pipes C and C' respectively operated by means of arms L and balls M, shaft G having disks J and K, the piston-valve of small cylinder A being operated by fork B² working in the groove K' of loose disk K, the whole being driven by means of pulley H connected by strap, rope or the like to pulley on driving shaft of engine.

An apparatus for preventing marine engines racing the employment of a fork R having screwed end S adjusted by means of nut U or the like and bearing against connected disks P and P' for compressing the spring O so regulating the movements of the balls M, and in connection with cylinders A and A' with pistons and piston-valves and pipes C and C' operated by arms L and balls

(CONTINUED ON PAGE II).



To PLOT THE DEVIATION—Lay off the deviation on the dotted line passing through the point for which the deviation has been found.

To FIND THE MAGNETIC COURSE—From the compass course on the vertical line, measure to the curve parallel to the dotted line and return to the vertical line in a direction parallel to the plain line.

To FIND THE COMPASS COURSE—From the magnetic course on the vertical line, measure to the curve parallel to the plain line and return to the vertical line in a direction parallel to the dotted line.

curve and taking off either the magnetic course or compass course as required. The diagram consists of one vertical line divided into 32 equal parts, each division answering for a point of the compass, or two vertical lines each divided into 16 equal parts as shown in the plate. The vertical line or lines are crossed at angles of 60 degrees by a system of dotted lines and a system

distance on the dotted line passing through the point marked the same as the ship's heading, taking care to measure the distance to the right from the vertical line if the deviation is easterly and to the left if it is westerly. Make a light pencil mark to indicate the measured distance on the dotted line. Repeat this operation for each point of the ship's heading and when the deviations for

THE MARINE RECORD.

MICHIGAN MARINE HOSPITAL SERVICE.

Contracts for the care of sick seamen in Michigan hospitals have been let by the supervising surgeon-general and the following are the successful bidders:

Detroit, patients to be cared for at the Marine hospital, outside patients at 90 Griswold street, burial to be furnished by J. W. Maney & Co., at \$9 per person; Escanaba, attendance by acting assistant surgeon, Delta county hospital to furnish quarters, subsistence and nursing at 86 cents a day; Grand Haven, attendance by acting assistant surgeon, Anna Farnham to furnish the quarters, subsistence and nursing at \$1 a day, James Barnes to provide burials at \$15 per person; Ludington, attendance by acting assistant surgeon, Mrs. H. D. Linsley to furnish quarters, etc., at 80 cents a day; Manistee, attendance by acting assistant surgeon, Mercy hospital to furnish quarters, etc., at \$1 per day, and to provide burial at \$15 per person; Port Huron, attendance by acting assistant surgeon, Port Huron hospital and home to furnish quarters, etc., at \$1 a day, J. W. Kelly to furnish burial at \$8 per person; Saginaw, attendance by acting assistant surgeon, St. Mary's hospital to furnish quarters, etc., for 90 cents a day, at \$2 day for contagious diseases; Sault Ste. Marie, attendance by acting assistant surgeon, Mrs. Annie Little to furnish quarters, etc., at \$1 a day, J. Vanderhook to provide burial at \$15.

JUSTICE REQUESTED.

Considerable feeling has been engendered through the recent discharge of an old and trusted employee of the Light-House Department. The matter has been talked about for the past few weeks and now it is learned that Congressman Corliss will request the restoration of Capt. Samuel Rioux as commander of the light-house tender Marigold. He has procured affidavits to controvert the charge that Capt. Rioux is not sober and that he cannot read and write, his evidence to prove that he can write consisting of a letter written by Capt. Rioux himself. He will submit these documents along with the history of Capt. Rioux's long service as mate and master of the Marigold, and will demand that he be given his old place back. The testimony in the old seaman's favor is very complete. It has been rumored that he has not been quite stylish enough for the pilot of a light-house tender, but surely this is a very indifferent reason for his complete discharge from the service.

NOTICE TO MARINERS.

POR DOVER BACK RANGE LIGHT.

A back range light, established by the Government of Canada, in connection with the light heretofore maintained on the west breakwater pier at Port Dover, Lake Erie, in the South Riding of Norfolk, Ontario, was put in operation on the 11th instant.

The tower stands back from the shore, 1,700 feet N.E. from the front light on the pier, and consists of a skeleton steel frame work, surmounted by an enclosed wooden lantern, the whole painted red. The tower is 45 feet in height from the base to the cowl on the lantern.

The light is a fixed red catoptric light, elevated 45 feet above the lake level. It should be visible seven miles in and over a small arc on each side of the line of the range.

The two lights in one show the harbor entrance and lead up to the pier in the best water.

This notice affects Admiralty charts Nos. 332 and 678,

and the substance of it should be entered in the Canadian List of Lights and Fog Signals after No. 946.

Department of Marine and Fisheries,
Ottawa, Canada, June 15, 1897.

SAILING YACHTS.

(Illustration.)

Although the more wealthy lovers of aquatic sports will always indulge in the most pretentious and expensive models of steam and other fancy tonnage for their recreation, yet, a class will exist who believe that the very acme of yachting enjoyment lies in the use and handling of sailing yachts and the physical as well as mental exercise and practical ability necessary to safely manipulate same in all weathers and under varying conditions.

Our attention has recently been directed towards a few very comfortable and handsome looking craft of this style as turned out by the Gas Engine and Power Co. and Charles L. Seabury & Co., Consolidated, of Morris Heights, New York City, and, through the courtesy of that firm we herewith reproduce an illustration of the handy sloop-rigged yacht Kabeyun, which it will be seen is an excellent cruising yacht for a limited number of persons—however, the builders do not insist upon building solely after their own plans or ideas nor any exclusively special sail tonnage; rather do they ask for the ideas, sketch or description of what intending purchasers re-

strictly for their patrons in the flag and bunting industry. Our New York friends are to be congratulated on their taste and enterprise in offering to the trade so conspicuous an evidence of their desire to furnish the best in design, quality and workmanship, and on which they stand ready to furnish estimates whenever called for.

EASTERN FREIGHT REPORT.

According to the usual weekly freight report furnished the Marine Record by Messrs. Funch-Edye & Co., New York, it is stated that but few boats have been closed for grain, and the enquiry is by no means brisk, the market is beginning to feel the effects of a large decrease of tonnage which has until recently been offering so freely. Although we do not believe that freights for later months will appreciate, it appears likely that the effect of this state of affairs will result in an advance of rates hitherto ruling for June and July to figures approximating, if not reaching, the price for August boats, viz.; 2s 9d@3s to Cork f. o. b. Berth freights should likewise show a moderate advance in the near future, from which outside large tonnage is bound to profit. On the other hand, the demand for timber boats from the Gulf ports has fallen off very considerably, and there is little inquiry for deals for prompt shipment from the Provinces. The difference in the respective views of shippers and owners for berth business to the far East is narrowing down, but at the moment the requirement for case oil in that direction appears dormant.

Our market for sail tonnage remains unchanged since our last report, and we have nothing of particular interest to mention. Fixtures have been comparatively few on account of the continued want of suitable vessels, but rates remain firm and prospects fair.

MARITIME LAW.

THE WAVERLY.

(District Court, E. D. Wisconsin, January 11, 1897.)

Salvage—Extent of Risk—State of Weather.

The extent of the risk assumed in undertaking to tow a disabled vessel is not to be gauged by the results alone; and the fact that the towing line was speedily taken,

and that no mishap occurred, is entitled to consideration only so far as it tends to show the state of the wind and sea.

Same—Compensation.

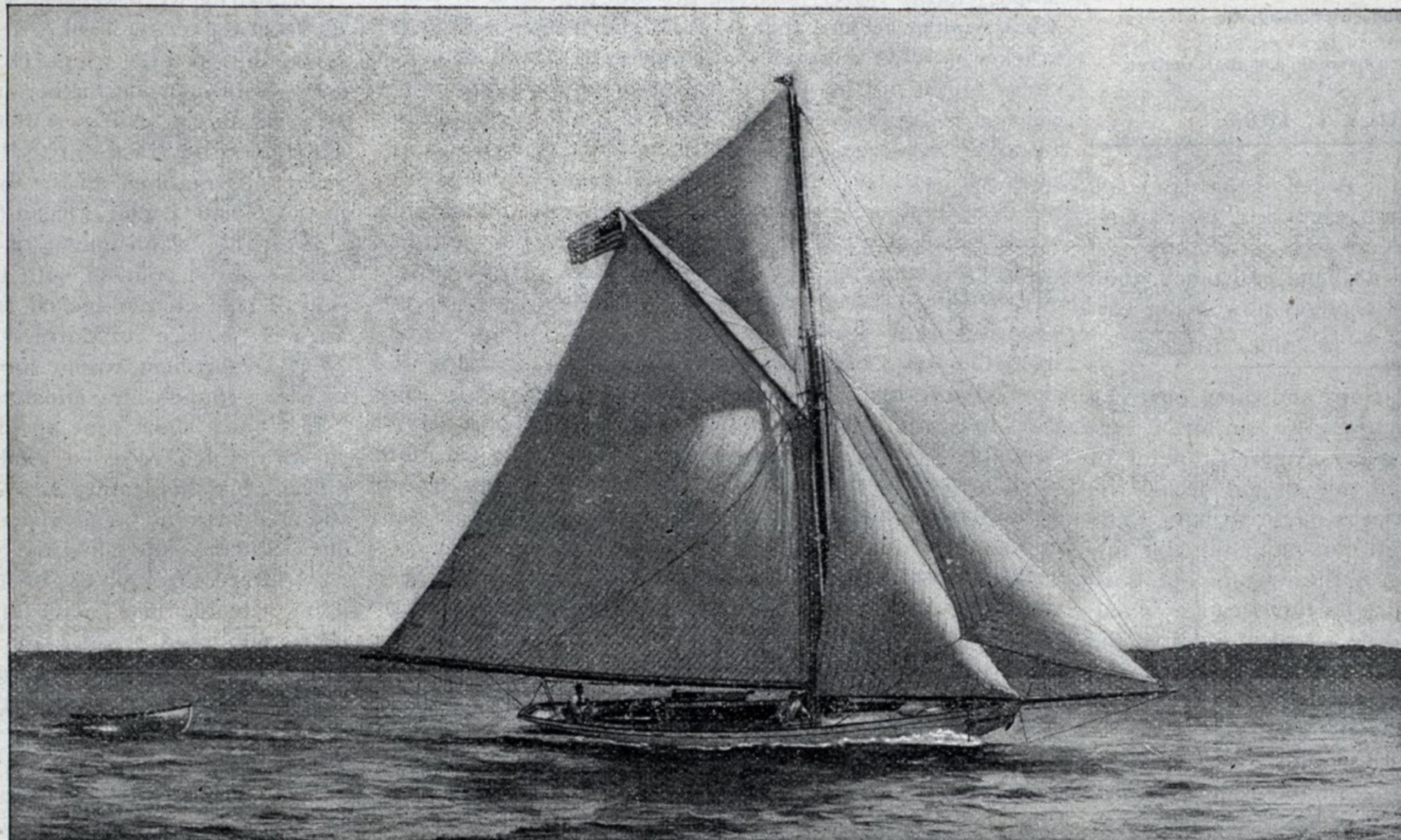
Fifteen hundred dollars allowed, upon a valuation of \$67,000, to a steamer and cargo, worth \$75,000, which, in threatening weather, at some risk, took in tow and brought to port a disabled propeller found in Lake Michigan, some 20 miles from the west shore, off the port of Milwaukee.

This was a libel by the North Michigan Transportation Co., owners of the propeller Charlevoix, against the propeller Waverly, to recover salvage for the services of the Charlevoix in taking in tow and conveying into port the Waverly, which was found disabled in Lake Michigan.

Markham, Nickerson & Harper, for libellant.
Schuyler & Kremer, for claimant.

Seaman, District Judge. There is no material conflict upon the determining facts in this case, aside from the allegation of the distance of the Waverly from Chicago, and from the west shore, when picked up by the Charlevoix; and in that regard I find no practical difficulty, as both the course of the Waverly prior to the accident, and the time occupied by the tow in approaching the west shore, concur in placing the location approximately 20 miles off that shore; and, from the course taken and the lights sighted after the tow commenced, it is apparent that the start was from a point about east of the port of Milwaukee. The Waverly was a freight steamer, and

(CONTINUED ON PAGE II).



SLOOP YACHT KABEYUN. 38 FEET OVER ALL.

ture and then work along the lines suggested by the owners or those who intend handling the craft.

The above named firm have in their employ an experienced designer of sailing yachts whose advice is given gratuitously to those who may be in doubt at any time relative to fittings, efficiency and general seaworthiness of any craft entrusted to, or contracted with the company to build, so that satisfaction is at all times guaranteed to the patrons of the now well-known consolidated company; furthermore, their industry is not confined to building sailing yachts, as the preponderance of their trade is in constructing steam yachts, naphtha launches, auxiliary cruising launches and water-tube boilers as well as multiple expansion engines up to four cylinders.

The New York office of the company is at 50 Broadway, where models and plans of all descriptions are kept at hand for the convenience of their patrons.

Messrs. DeGrauw-Aymar & Co., manufacturers of flags, 34-35 South street, New York, have issued a very neat booklet of flags in colors including the flags of all nations, international code of signals, weather signals, also yacht club and private signals, all of which go to make up a most attractive item in trade literature. This calls to our attention the notice that the work is only issued for the trade, a proviso which we understand to mean that it is not for general or indiscriminate circulation, but

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CLEVELAND, O., JULY 1, 1897.

Harbor improvement is now the order of the day at all of the principal lake ports. Duluth, Superior, Milwaukee, Chicago, Cleveland, and Buffalo, as well as a number of other ports have a season's work in hand and much good will result from the well-advised changes now being carried out and in contemplation.

We ought to be able to build ships and carry our own foreign commerce quite as profitably as we can hire it carried in foreign vessels. From every American point of view it is economy to do so and this should decide the matter. At the same time Americans ought to have some pride and sentiment about them in contemplating this important question, and feel that it is the duty of our government to be as much in evidence on the ocean as is any other nation. The nation should be a unit in favor of the upbuilding of our merchant marine and the reappearance of the American flag on the high seas.

A correspondent of the Record's, who by the way is one of the best known and most prominent ship masters on the lakes, and now sailing a large steel steamer, says: "In the serial published in the columns of the Marine Record on 'Practical Methods for finding compass errors,' I have not yet seen anything said about the effect on the compass of an iron or steel boat with or without cargo. This feature acts as a heeling error and will no doubt make a considerable difference in the deviation of most compasses." It is to be regretted that no data is at hand relative to this very important subject as in the short trade on the lakes, making continual varying changes, the deviation must certainly change throughout the season and to a certain extent perhaps on each trip.

Relative to tonnage statistics the Treasury Department places New York next to London in the tonnage of vessels engaged in the foreign trade. On January 1, 1896, or for the year preceding up to that date, the entries at London numbered 8,435,676, and clearances 6,110,325 tons, or a total of 14,546,001 tons, while New York showed 6,911,782 entries, and 6,552,614 clearances, or a total of 13,464,396 tons for the year, being only 1,081,605 tons less than that of London. Antwerp ranks third, with Liverpool a close fourth, and Cardiff fifth. In this connection we may state that it is not always the port that enters and clears the largest number of vessels that handles the greatest volume of tonnage as in the matter of a custom house entry the smallest schooner counts one with the five to ten thousand-ton steamer, hence, relative to numbers, the smallest fishing port would outclass many pretentious seaports if each entry and departure were to be counted irrespective of trade and tonnage.

CHICAGO COMMERCE AND HER RIVER.

In a comparative statement printed in our issue of June 24th, it was shown that the aggregate entrances and clearances of vessels at the port of Chicago during the year ending June 30, 1896, exceeded those of New York by 4,725 and closely approximated the combined totals of all entrances and clearances at the large ports of Boston, Baltimore, Philadelphia, San Francisco, and New Orleans.

These figures are stupendous in their significance, but we have every reason to believe that they are strictly reliable, because official.

Other equally astonishing figures might be quoted relative to the commerce of Chicago, but for the point we wish to elucidate the entries and clearances may be considered sufficient at this time. Here we have a port leading the country in the number of its vessel arrivals and departures, but almost totally neglected in regard to urgent facilities required to carry on the general commerce of the West and South-west. Someone said somewhere at some time something to the effect of not letting it be told in Gath or even whispered in Babylon. Be the foregoing as it may, a mighty shout should go forth so that maritime and commercial interests could waken up to the fact that only sixteen feet of water can be carried in or out of the most frequented port in the United States.

We have time and again pointed out that Chicago was permitting her vast commerce to slip through her fingers as it were, through shoal water, bridges at almost every ship's length, heavy port charges and a general or somewhat popular feeling that it would be just as well if the creek was filled in solid so that pedestrian and vehicular traffic might not be delayed through the swinging or repairing of bridges, etc., and this, too, although millions of dollars has been expended in building grain elevators, piers, etc., etc., also that commercial prosperity was forcing itself on the city through its dirty, narrow and tortuous creek, which at times shows very little more than fourteen instead of the ordinary stage of sixteen feet. However, the city of Chicago very properly and adroitly secured an appropriation of nearly three-fourths of a million dollars from the last Congress, for widening and dredging the river, also to maintain a depth of sixteen feet, while other lake cities were issuing bonds for the same purpose. Well done the "I Will" of Chicago, she has accomplished more in all ways than any port in the world in the same length of time and is highly deserving of extraordinary consideration.

The feature now in the way of Chicago holding her supremacy in water transportation is chiefly on account of the several tunnels crossing the river and over the crowns of which the shoalest draft is experienced, and inasmuch as the entire course of the river is to be deepened and also widened in places by the government in order to accommodate vessels of modern size, the lowering of the crowns of tunnels have become a necessity. In this connection, Capt. J. S. Dunham, one of the most prominent and energetic vessel owners of Chicago, says:

"When the tunnels were built lake vessels drew only twelve feet of water. As the depth over them is sixteen feet at the ordinary stage, it was then thought they would be good for all time in that respect. If the Creator had only equipped all his children with the gift of looking into the future what a heap of worry and inconvenience it would save. These tunnels must be used all the time the lowering of the crowns of the tunnels is in progress. Through them there pass every day 500,000 people, and it would be simply impossible to close them. Engineers say the foundations can be first sunk, the cars being run through on a trestle, then a new roof put on; all that could be used of the present tunnel would be the sides. This would be a slow process, but it is the only one."

It is furthermore understood that the war department will not order the tunnels lowered for the reason that the stream has been recognized by Congress as navigable to vessels drawing 16 feet or less, and the duty of the department ends when it maintains that depth of water. Officially it has no knowledge of the tunnels. They were placed there by consent of the city without notifying the government or asking its leave, and the government has assumed that it has no authority over them. In order to secure the lowering of the tunnels Congress must declare Chicago River navigable to a depth of 20 feet or more. When this has been done it will devolve upon the war department to maintain that depth of water, and the department can lower the tunnels or order their owners to lower them, on the ground that they constitute obstruc-

tions to navigation. Furthermore, Col. Mackenzie, of the Corps of Engineers, U. S. Army, in charge of the district, says that the war department cannot change the project outlined in a river appropriation in the slightest detail, and that therefore the present appropriation of \$700,000 for the Chicago River must be spent in dredging to a depth of 16 feet. If the city should order the removal of the tunnels nothing would be accomplished, for without action by Congress the war department could not deepen the river beyond 16 feet. It would therefore appear that either Congressional action is necessary or the municipality itself could take the question in hand as we think it really ought to do and correct the error of judgment of which it was guilty in the past, but out of which it has reaped untold benefits nearly up to date.

That Chicago will have her river widened and deepened is a foregone conclusion now that she has awakened to the facts of the case and whether private, municipal or federal funds will be used for this purpose is but a slight consideration once the necessity of the improvements comes to be recognized, as it now appears to be.

PILOT AND CURRENT CHARTS.

The pilot chart of the N. Pacific Ocean for June, issued by the Hydrographic Office, Bureau of Navigation, Department of the Navy, Washington, D. C., by J. E. Craig, Commander, U. S. N., hydrographer, is one of the most valuable delineations ever published by the bureau.

Ordinarily we have been contented to learn the probable location of fog banks, drifting derelicts, paths of currents, limit of trade winds, etc., etc., but Commander Craig now goes somewhat further and gives us composite as well as great circle sailing routes. In addition, we find the average storm tracks in the N. Pacific deduced from ten years' observations and a forecast of wind and weather in the North Pacific Ocean for next month.

With the establishment of branch hydrographic offices at lake ports, coupled with the compilation and publication of lake charts, special surveys and the regular issuance of "Notice to Mariners," it would appear as if the Navy Department would soon begin to hold its own on its own ground—viz., afloat.

It is but a short time ago when the coast and geodetic survey branch received credit for work done by naval officers, but this feature has been altered somewhat of late and credit is now being given where it is more pertinently due. So far as the lakes are concerned the Department of Agriculture through its Weather Bureau branch entered upon valuable lake work and besides issuing a wreck chart, published a wind and current chart of the lakes, with prospects looking favorably towards the future publication of a chart showing the density and formation of fog banks through the several months of the navigation period on each lake. However, with the advent of the branch hydrographic offices the Department of Agriculture ceased its efforts in this direction, since which time little else regarding the physical geography of the lakes has been found out, although it should be stated in all candor that a new departure in the form of a lake pilot chart was issued by the hydrographic office some time ago.

As the department which initiated the movement to ascertain and develop the natural laws governing the lake region has retired from this field of its operations, we now look to its successor, the Hydrographic Office, to continue the good work and undertake to produce, what 'ere the good work and undertake to produce what 'ere this would have been done by the Weather Bureau branch of the Department of Agriculture, viz., a delineation showing the prevalence of fogs with their special and general characteristics during the season of navigation.

We are not aware of how the funds appropriated by Congress for carrying on this class of work stands at the present time, but we do know that the period has about been reached when a new pilot chart, showing the prevailing weather conditions, winds and currents, including the set and drift of the latter, as well as the formation of fog banks, etc., ought to be published for the direct benefit of the maritime and commercial communities interested in the lake trade.

In furtherance of the duties of his office the late hydrographer made a tour of the lakes and the advantages derived therefrom was evidenced in his more intelligent grasp of the special conditions existing on these waters and the works which were afterwards published. From this standpoint, we may be excused for suggesting that Commander Craig, U. S. N., the present hydrographer,

might find liberty and leisure to take a similar cruise thus early in his detail, feeling assured that the time thus spent would be for the best interests of the department and of incalculable benefit to those engaged in maritime and commercial pursuits in connection with the great lakes and their various tributary interests.

It is not intended by the foregoing to insinuate in any manner that the present services of the department are not of regularly increasing value in this region nor that the work of the branch offices is not being ably carried out, yet, while this is being done, more perhaps might or could be accomplished if circumstances, or rather we mean funds, permitted the Hydrographic Office to take up other lines of study with a view of determining within the next few years a more exact knowledge of the physical geography of these waters, and the earlier a start is made in this direction the sooner undeniable facts of the ruling economy may be established.

During the year 1896 the British tonnage entered at United States ports and of course engaged in foreign commerce aggregated 11,168,065 tons. The American commerce, or cargo carried in American bottoms for the same period of time amounted to only 5,196,320 tons, and the total commerce was 20,989,194 tons. The foregoing figures are somewhat more in favor of the United States than the statistics of 1892 shows for, although that was the most prosperous year in the history of the country, in so far as our foreign commerce is concerned the totals aggregating 21,013,424 tons, yet, British vessels carried 11,930,126 tons, as opposed to 4,469,955 tons in American bottoms. However, there is some consolation in noting that American vessels carried more imports last year than at any time during the past forty years, and that means more than ever before.

Of course nothing will be done at this session of Congress towards upbuilding the United States mercantile marine, although we have had more talk on the subject than ever before. It is perhaps just as well to remember that the declaration in the Republican national platform for this term says: "We favor restoring the American policy of discriminating duties for the upbuilding of our merchant marine and the protection of our shipping in the foreign carrying trade, so that American ships—the product of American labor, employed in American shipyards, sailing under the stars and stripes, and manned, officered and owned by Americans—may regain the carrying of our foreign commerce."

Capt. W. S. Schley, U. S. N., chairman of the Light-House Board, will shortly advertise for bids for one first-class composite light vessel to be delivered at Philadelphia, Pa., within ten calendar months from the date of approval of the contract by the Secretary of the Treasury. The time being limited, due consideration will be awarded to the lowest responsible bidder on the contract. The Detroit Dry Dock Co. are first-class builders and well fitted to accept a contract on one of their specialties, viz.: Composite ship building and we hope that the firm will sharpen a pencil to get the contract for this departmental new tonnage or bottom.

WHY JETSAM IS A LOSS.

(From the Detroit Free Press.)

A certain Cleveland paper has been devoting much of its space to advocacy of the appointment of a "receiver" for wrecks, who should personally look after the disposition of jettisoned cargoes, where possible, saving as much of it as practicable for the recoupment of those who have to stand the loss. It would seem that had the need for such an official been felt at any time the plan would have been adopted many years ago.

The pen pusher doing the marine on the Free Press ought surely know that the paper mentioned is the Marine Record, he should also learn that we have wreck "receivers"—ad nauseam—they don't receive, as the Free Press man, shows later in his verbose tirade.

The master of the vessel is, according to maritime law, the person supreme on the wreck, taking precedence over the owner himself, the wrecking master and all others. It is he who is responsible for the disposition of cargo thrown overboard. In some cases he is glad to shift the responsibility for all wrecking operations to the wrecking master, if the latter is a thoroughly competent man.

In the foregoing paragraph the writer gets mixed up on the act of jettisoning with the terms jetsam, salvage, and the duties of those engaged by the master to assist operations in the interest of all concerned. "Responsible

for the disposition of cargo thrown overboard" is good, if bulk cargo, the master disposes of it as soon as it gets over the rail, that's the only disposition he wants of it at the time. There is no wrecking operations or wrecking master in question, it is a simple act of jettison, or sacrificing a portion to save the remainder, however, the paragraph is such a jargon of words as to be unintelligible.

When the Union Line steamer H. J. Jewett, then the finest and fastest steamer on the lakes, went ashore near White Rock, Lake Huron, in November, 1883, the greater part of her valuable cargo of high-class groceries was thrown overboard until it rose in the form of a hill high out of a depth of fourteen feet of water. There was white sugar and brown sugar in barrels and great boxes of bottled pickles and sauces and boxes of soap and crackers, and all that sort of thing. The lake for days afterward was thickly strewn with such of these as would float. Farmers from all parts of the Thumb flocked to the scene in their wagons, obtained any boats within reach and scoured the lake for the stuff. Some of them secured as much as \$300 worth. Thus was the cargo scattered over all the country. On the shore from Sanilac to Pointe aux Barques the people had white and brown sugar and catsup and Worcestershire sauce for many years to come. A weak attempt was made to recover from the new owners some of this cargo, but it came to naught, the insurance men finding that it would cost as much to find it and get possession again as it was worth. The search over a radius of scores of miles of territory would not only entail much hard work, but much humiliation as well, for rebuffs would be met with on every hand. Then, on finding it, the new owner would have to be reimbursed for his labor and trouble in saving it, to the value of about one-half the stuff. If he refused to give it up, as he might in some cases, writs of replevin would have to be secured, and even on that kind of seizure he could still demand pay for his work in saving it. It is a favorite trick of the hookers sailing up and down the Lake Huron shore to load up with the jetsam from these wrecks and then take it over to Canada to sell it for a fair price. Of course cargo disposed of in this way is beyond recovery.

This is scribbling rank anarchy of the most pronounced type and the writer thereof deserves whipping over the fingers with a split rope yarn. We did say something about the Cornish childrens prayer a while ago, and it ran in this way: "God bless mammy. God bless daddy, and send a ship ashore before morning," it is but just to state, however, that they have become more civilized within the past few years and the petition is no longer put up. If the Free Press man cold get leisure enough to leave his long winded, misleading special stories and try to run a cargo of flotsam, jetsam or lagan into a Canadian port, he would not have the chance to perpetrate his jokes, on a fun-loving public, for a time at least, as his efforts to dispose of such a cargo might land him where the flies would not trouble him.

The only way in which jetsam can be saved is to lighter it immediately into a schooner or barge, but these heavy strandings usually occur in the late fall of the year, when time is of the utmost importance, and men must work night and day, without waiting for the arrival of a lighter, to rid the vessel of cargo and lighten her enough to get her off the rocks before gales spring up to pound her to pieces.

Worse and more of it, jetsam is goods sunk, now, this writer, who it appears is loaded down to the scuppers with the legal lore and nautical phraseology, wants to make an ordinary lightering job into a bad case of stranding. He first creates jetsam, lighters the jetsam, strands the vessel and makes a clear case of jettison, finally piling the vessel on the rocks and then gets in a hurry to lighter her before a gale springs up, to pound her to pieces. Well! we intended to teach the Free Press man who our "wreck receivers" are, their duties, etc., etc., but this things cast overboard, and "lagan," or goods sunk but would be but spoiling material to endeavor "to lighten the darkness."

The ancient signification of the word wreck (derived from the Anglo-Saxon), says an authority, was that of a ship or goods cast upon the land by the sea in tidal waters. While still at sea, these were derelict, and not wreck. "Flotsom," or things floating; "jetsam," or things cast overboard; and "lagan," or goods sunk but buoyed, were also derelict, and not wreck. According to the English law, Merchant Shipping Act, 1854, wreck now includes flotsam, jetsam and lagan.

Plundering or stealing from a wreck is punishable with fourteen years' penal servitude; or being in illegal possession of goods stolen from a wreck, with ten years' penal servitude.

The Roman law ruled that theft from a wreck was a crime aggravated by the helpless condition of the owner, and the thief was liable for fourfold the amount of the property stolen, provided that action was brought with-

in a year after the offense, a concealer of wreck suffered the same penalty.

We now learn through the columns of the Free Press, and the farmers also, the crews of hookers are especially mentioned, that our people, are, in a word, thieves and robbers, steal and when captured refuse to give up their ill-gotten plunder, arguing, moreover, that laws cannot be enforced. Out upon such a villain he ought to be put into a barrel and headed up and jettisoned in the middle of Detroit River to ponder over the terms, Bottomry, Respondentia and Hypothecation.

GENERAL VERSUS BULK CARGOES.

The following item has gone the rounds of the press this week, though what information there is in it or why it should ever have gotten into print is past comprehension. I re-print it to point out that the author does not know the difference between a general or bulk cargo; not to mention the misnomer of package freight.

"In a discussion a day or two ago a well-known vessel agent gave it as his opinion that the most difficult kind of cargo to carry in lake hulls is package freight. The danger of unskilled loading or unloading is that it strains the vessel in that part where the weight is allowed to lie the heaviest. Pig lead or railroad iron stowed on deck and unevenly trimmed always weakens the deck and in some cases crushes it down outright. For the same reason iron ore carried in the hold strains a vessel. The dropping of the ore into the boat does not, as some suppose, hurt the bottom or the sides by the force of the blow it may give the boat, but it is the leaving it in piles that strains the bottom. These piles are, of course, right under the hatches. It would seem that the greater number of hatches the better the boat is trimmed."

Now this is a good deal like one of the Detroit Free Press stories. By package freight is meant general cargo and properly stowed is usually an easy cargo to carry, as the vessel can be so trimmed while loading. The fellow then gets off to stowing pig lead and railroad iron on deck, then winding up with an untrimmed cargo of iron ore. The item begins to tell about "package freight," whatever that is, and ends with a caution to have plenty of hatchways, so as to load a self-trimming cargo of iron ore.

LAKE FREIGHTS.

The Chicago grain freights have wavered somewhat during the week, oats being taken at 1 cent and corn 1½ cents to Buffalo, a drop of ½ cent from the firm market of last week on both cereals, to Prescott, Ont., 2½ cents on corn, slow sales of grain are still reported. At Duluth the situation is slightly improving and a quotation is in evidence for the first time this season, although the old rate of 1½ cents prevails. Very little change can be expected until the next crop begins to arrive, yet there is a firmer feeling and rates must surely advance in the very near future, as an indication the latest charter is quoted at 1½ cents on wheat.

Iron ore rates are as formerly quoted, viz.: 40 cents, Escanaba; 50 cents, head of the lakes, but it is thought that these low figures will not last over a few days longer, 55 cents and 60 cents for ninety-day charters is now being considered, but with slow dispatch on account of the docks being crowded, even the higher rate is anything but a desirable charter to work on up till October and vessel owners seem not too eager to accept 60 cents.

Coal freights to the principal ports are unchanged from last week's quotations and nothing better than 20 cents from Lake Erie to Lakes Michigan or Superior can be secured. The Buffalo shipments of anthracite show a very decided falling off, something like 200,000 tons less than at this time last season. The coal will have to go forward and vessel owners ought to have grit enough to get together and make an understanding so that the up cargoes of coal would help out vessel's earnings. A 40-cent rate would as easily be procured as the present 20 cents, if the hungriest of the fleet would only hold off for awhile and there is really little sense in carrying a much wanted commodity for ballast.

It is idle to state what the future may develop in the grain, iron ore, coal or lumber trades or quoting what Tom, Jack or Dick may suggest regarding freights. Conditions alone will rule and with a surplus tonnage rates are certain to be low. At the same time iron ore as well as coal freights should certainly advance.

Uncle Eben—The dickshunny is de mose uselessis' book as ebber was printed. Yer can't find out by it how to spell ter word excep' yer knows how ter spell it in de fus' place. All lars' night I was sarchin' 'mongst the "k's" fur the word "kwiet," an' I couldn't find it—twarn't there!

H. C. BURRELL,

Marine Reporter.

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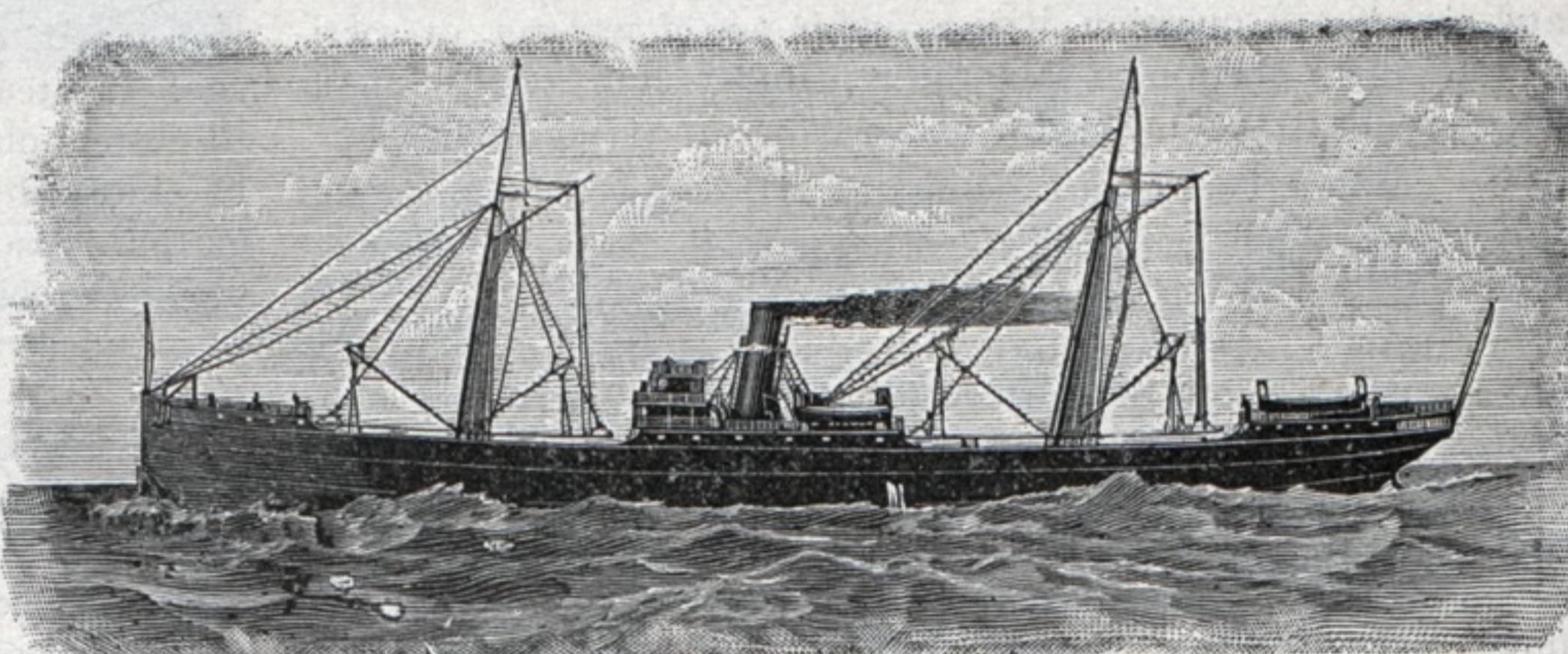
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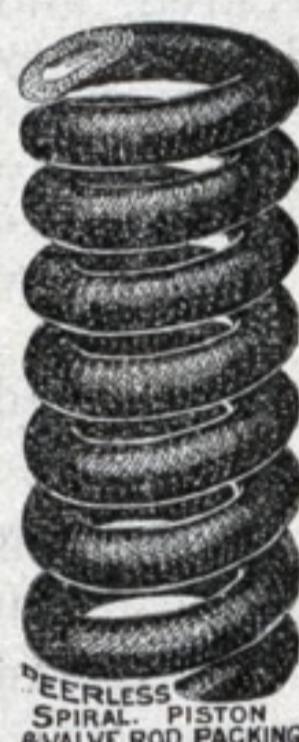
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GRAIN FREIGHTS BY LAKE, SEASON OF 1896.

The following were the current rates of freight on wheat and corn from Chicago to Buffalo, Kingston, Ogdensburg and Montreal, (steam); also to New York by lake and Erie Canal, for each week during season of navigation as compiled by Geo. F. Stone, Secretary Chicago Board of Trade.

	TO BUFFALO.		TO OGDENS-BURG.		TO KINGSTON.		TO MONTREAL. (Steam.)		ERIE CANAL, BUF-FALO TO NEW YORK.		CHICAGO TO N. Y. LAKE & CANAL. (Including Buffalo Charges.)	
	Wheat per bu.	Corn per bu.	Corn per bu.	Wheat per bu.	Corn per bu.	Wheat per bu.	Corn per bu.	Wheat per bu.	Corn per bu.	Wheat per bu.	Corn per bu.	
April.....	18	1 1/8	1 1/2	4	...	...	...	...	...	...	...	...
	25	1 1/8	1 1/2	4	...	...	...	...	...	...	...	...
May.....	2	1 3/4	1 1/2	4	...	...	...	...	3 1/8	3 5/8	6 1/2	6
	9	1 1/8	1 3/4	3 1/8	...	3 1/8	...	5 1/8	3 3/4 @ 3 1/8	3 1/2 @ 3 1/8	6 1/2 @ 6 1/8	6 1/4 @ 6 1/8
	16	1 1/8	1 1/2	3 1/8	...	2 1/8	...	5 1/8	3 3/4	3 1/2	6 1/4	5 1/8
	23	1 1/2	1 1/4	3 1/8	...	2 3/8	...	4 5/8	3 3/4	3 1/2	6 1/8	5 1/8
	30	1 1/2	1 1/4	3 1/8	2 5/8	2 3/8	5 1/8	4 5/8	3 3/4	3 1/2	6 1/8	5 1/8
June.....	6	1 1/2	1 1/4	3 1/8	2 5/8	2 3/8	5 1/8	4 5/8	3 3/4	3 1/2	6 1/8	5 1/8
	13	1 1/2	1 1/4	4	2 1/8	2 5/8	5 1/8	4 7/8	3 3/4	3 1/2	6 1/8	5 1/8
	20	1 1/2	1 1/4	4	2 1/8	2 5/8	5 1/8	4 7/8	3 3/4	3 1/2	6 1/8	5 1/8
	27	1 3/8	1 1/8	4	3 1/8	2 5/8	6 3/8	...	3 3/4	3 1/2	6	5 1/2
July.....	4	1 3/8	1 1/8	4	2 1/4	2 5/8	5 1/4	...	3 3/4	3 1/2	6	5 1/2
	11	1 1/4	1	3 1/4	2 3/8	2 3/4	5 3/8	5	3 3/4	3 1/2	5 7/8	5 1/8
	18	1 1/4	1	3 1/4	2 3/8	2 5/8	5 3/8	4 7/8	3 3/4	3 1/2	5 7/8	5 1/8
	25	1 1/4	1	3 1/4	...	2 3/4	...	5	3 3/4	3 1/2	5 7/8	5 1/8
August.....	1	1 3/8	1 1/8	3	2 3/4	...	2 3/4	...	3 3/4	3 1/2	6	5 1/2
	8	1 1/2	1 1/4	2 7/8	...	2 3/4	...	5	3 3/4	3 1/2	6 1/8	5 1/8
	15	1 1/2	1 1/4	2 7/8	...	2 3/4	...	5	3 3/4	3 1/2	6 1/8	5 1/8
	22	1 1/8	1 2/8	2 7/8	...	2 3/8	...	4 5/8	3 3/4	3 1/2	6 1/8	5 1/8
	29	1 1/2	1 1/4	3 1/8	...	2 5/8	...	4 7/8	3 3/4	3 1/2	6 1/8	5 1/8
September.....	5	1 1/2	1 1/4	3 1/8	2 3/4	...	5 1/4	...	3 3/4	3 1/2	6 1/8	5 1/8
	12	1 1/2	1 1/4	3 1/8	2 3/4	...	5 1/4	...	3 3/4	3 1/2	6 1/8	5 1/8
	19	1 3/8	1 1/8	3	2 5/8	...	5 1/8	...	3 3/4	3 1/2	6	5 1/2
	26	1 1/4	1	3	2 5/8	...	...	...	3 3/4	3 1/2	5 7/8	5 1/8
October.....	3	1 1/2	1 1/4	3 1/4	2 5/8	...	5 1/8	...	3 3/4	3 1/2	6 1/8	5 1/8
	10	1 1/8	1 3/8	3 1/4	2 7/8	...	5 3/8	...	3 3/4	3 1/2	6 1/4	5 1/4
	17	1 3/4	1 1/2	3 1/2	...	...	...	...	3 3/4	3 1/2	6 3/8	5 7/8
	24	1 7/8	1 8/8	3 1/4	...	...	...	...	3 3/4	3 1/2	6 1/2	6
	31	2	1 3/4	4 3/8	2 7/8	...	5 3/8	...	3 3/4	3 1/2	6 5/8	6 1/8
November.....	7	2 1/4	2	4 3/8	...	...	...	...	3 3/4 @ 4	3 1/2 @ 3 1/8	6 3/4 @ 6 7/8	6 3/8 @ 6 1/2
	14	2	1 3/4	4 3/8	...	...	...	...	3 1/2 @ 4	3 1/4 @ 3 1/8	6 1/8 @ 6 1/2	5 7/8 @ 6 1/4
	21	2	1 3/4	5	...	...	...	...	3 1/2 @ 4	3 1/4 @ 3 1/8	6 1/8 @ 6 1/2	5 7/8 @ 5 1/2
	28	2	1 3/4	5	...	...	...	...	3 1/8 @ 3 1/2	2 7/8 @ 3 1/4	5 4 @ 6 1/8	5 1/2 @ 5 1/2
December.....	5	2	1 3/4	5	...	...	...	...	...	...	...	...
	12	2	1 3/4	5	...	...	...	...	...	...	...	...
	19	2	1 3/4	5	...	...	...	...	...	...	...	...

FLOTSAM, JETSAM AND LAGAN.

The steamer Samoa was short 190 bushels, and her consort 660 bushels on their cargo from Chicago to Sarnia this week.

Folger Brothers put on a line of steamers this week between Clayton and Montreal, touching at Ogdensburg, to compete with the Richelieu line.

The old excursion steamer Periwinkle burned to the water's edge on Monday while lying at her dock in Toledo. She is said to have been insured for \$3,800.

Capt. Thomas Pringle, a veteran vessel master of the great lakes, died at Marine City last week. Capt. Pringle was well known in the vessel community, and was universally respected.

It may be just as well to know that for several years Chicago furnished railroad maps to two of the principal railroads in England, a fact which could hardly be believed by the natives of the bright little, tight little, half-side rock.

The Lehigh Valley Transportation company has announced the following lake and rail rates on grain from Chicago and Milwaukee to Boston and other New England points: Wheat, 10 cents; corn, 8 1/2 cents; oats, 5 1/2 cents. These are decided reductions from former prevailing rates.

On the lakes there were on June 30, 1896, 343 steam vessels of 1,000 to 2,500 tons, while on the Atlantic and Gulf coasts including the Pacific coast, the totals amounted to only 192. There is just as great a disparity in the tonnage also, for while the coast and gulf ports show an aggregate volume of 292,158 tons, the lakes soar away up to 582,441 tons.

The rates on lumber from the head of the lakes to Lake Erie ports and Chicago are in a bad condition. One shipper claims to have chartered for Tonawanda as low as \$1.37 1/2, while the rate is nominally \$1.50. It is claimed that the rate of \$1.50 to Chicago has not been cut. The rates are the lowest in the history of the market at Duluth. It is claimed that in some cases where a rate of \$1.50 to Lake Erie has been made that the shipper has procured a rebate.

The old steamer Fairbank is to be rebuilt at once. She has lain in Port Colborne ever since she was taken in there, two seasons ago, after being burned to the water's edge, some miles above that port. After the Carters, who bought her of the insurance companies, had unloaded and dismantled her they put her up for sale. Last spring she was bought by Capt. John Pringle and others, and they are getting ready to work on her.

MARITIME LAW.

(CONTINUED FROM PAGE 7).

left Chicago on the morning of September 17, 1893, bound for Buffalo, with a cargo of 47,000 bushels of corn, and two schooners in tow. At about 7 p. m. a break occurred in the machinery of the steamer, by which, as described by the engineer, "the engine went through herself," and was completely disabled. The schooners were then released, proceeding under sail, and the steamer blew her signals of distress while the engineer was engaged in disconnecting the shaft. The steamer Charlevoix, carrying 60 passengers and a cargo of general merchandise and fruit, was on her trip from Northport to Chicago; and the signals being heard on their starboard bow, about a mile and a half away, answering signals were given, and she came up promptly within hailing distance. Although there are minor differences in the testimony of what was then said by the masters, respectively, all agree that assistance was called for, and that the matter of compensation was to be left to the owners for settlement. The Waverly rolled somewhat in the troughs of the sea, which was running from the southward. There was no storm, according to seamen's parlance. The libel avers only "a lump of a sea," and the mate of the Charlevoix says a 10-mile breeze was blowing from the south. The master of the Waverly says. "The wind was about southeast, a nice breeze," but that it was what "sailors would call threatening weather." The disabled steamer was not, perhaps, in imminent peril from the present state of the weather; but it is asserted that an unfavorable change of the weather, with the wind west or northwest, was indicated by the barometer, and in that event the sole dependence of this steamer for making a port of shelter or anchorage was upon a small foresail and mainsail—conditions in which disaster might well be apprehended. On the other hand, there was sufficient sea to require care and skill, and involve some extent of risk to the Charlevoix in maneuvering to take the line, and in towing with the short line improvised for the purpose, the wind having increased and hauled to the west—certainly more risk than would be incurred in her regular voyage. The extent of the risk which was assumed by the salvor is not to be gauged by the results alone, and the argument of the respondent to that end, upon the fact that the line was speedily taken, and that no mishap occurred, is entitled to consideration only so far as it tends to show the state of wind and sea. The service was rendered by a passenger

steamer upon the urgent call of a disabled steamer. It was voluntary, prompt and effective, and under circumstances which constitute salvage of the minor order, but not mere towage. The rules stated in the case of the Spokane, 67 Fed., 24, are clearly applicable here, the only differences being of degree—the salved property here being about one-fifth the value there, and the service there being at the close of the season of navigation, and with greater distance and difficulties. The value of the Waverly and cargo is stipulated at \$67,000, and of the Charlevoix and cargo at \$75,000. The claimants tendered \$500, and it is urged in their behalf that such amount would be liberal compensation, and the allowance should be no larger; but the purposes of the rule of salvage which grants compensation in the nature of a reward, would not be fulfilled by narrowing the allowance so closely to the rate of mere towage, and I am satisfied that \$1,500 may justly be awarded, under the circumstances shown. Let the libelant have decree for that amount and costs.

RECENT MARINE PATENTS.

(CONTINUED FROM PAGE 6).

M and shaft G driven by pulley H connected to driving-shaft of engine.

The apparatus for governing marine engines and to prevent them racing, consisting of cylinders A' and A having pistons B and D, springs B', pipes C and C'; the pistons being operated by the fork B², disks K and J, rods L, balls M, shaft G, driving-pulley H, spring O, fork R, adjusting-nut U, disks P and P'.

579,889. Propeller. Henry Miller, New York, N. Y., assignor of one-half to Carl Goerg, same place. Filed Dec. 31, 1896.

A propeller provided with shiftable or reversible blades, a shifter or rod for said blades, a shaft for the propeller and a lock or catch for locking the shifter to the shaft. A tubular shaft through which the rod extends, a lever or handle for the shifter, and a lock or catch for locking the shifter to the shaft.

A propeller provided with shiftable blades, a shifter or rod for said blades, and a lever or actuating handle for the shifter, combined with a shouldered sleeve moved by said lever, a catch or lock for the sleeve, a releasing collar or wedge on the sleeve for disengaging the catch, and a lever or handle for said releasing collar.

A propeller-hub comprising longitudinally-separable sections and a shaft about which the hub-sections are clasped,

said shaft being provided with a rim or lugs and said hub-sections being correspondingly recessed to fix themselves to the shaft when clasped about the latter substantially as described.

575,272. Pick Attachment for Dredgers. Horace S. Potter, Jersey City, N. J. Filed April 25, 1896.

A pick arranged for attachment to a dredger and having its handle or shank in pivotally-connected sections, the sections being adapted to break in one direction; provided with a handle or shank constructed in sections, the sections being connected by a hinge the knuckle whereof extends below one of the faces of the said sections.

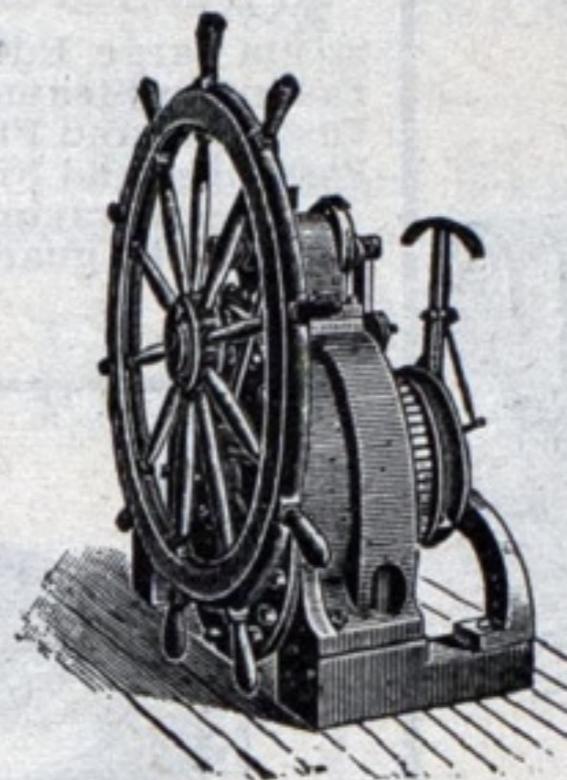
The combination, with a dredger and a turn-table connected therewith, of a pick, a handle attached to the pick and constructed in hinge-connected sections, one of the sections being connected with the turn-table, a hoisting device connected with the handle near the pick, and a second device of like character connected with the handle adjacent to the hinge connection of the sections, as and for the purpose specified.

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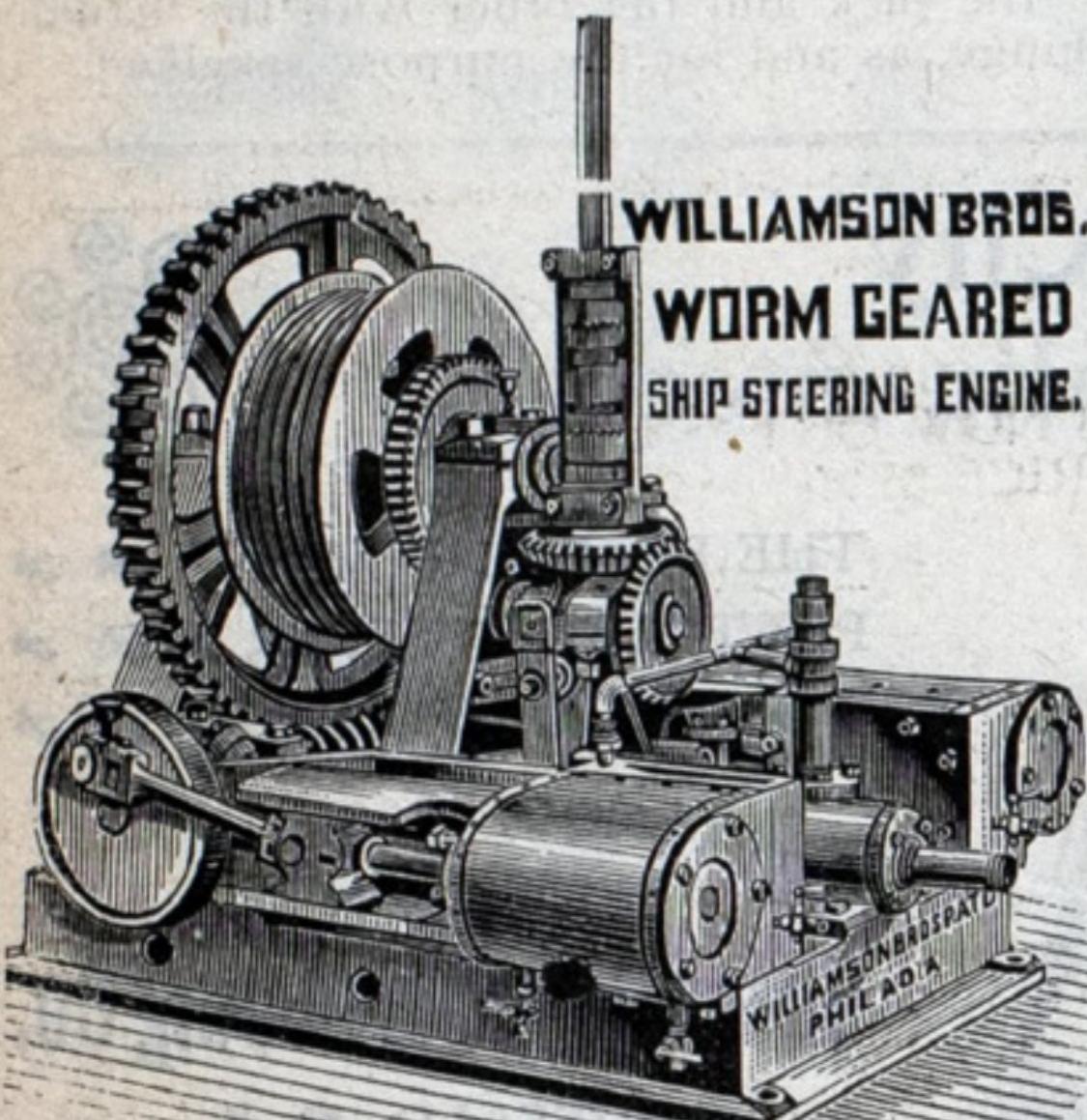


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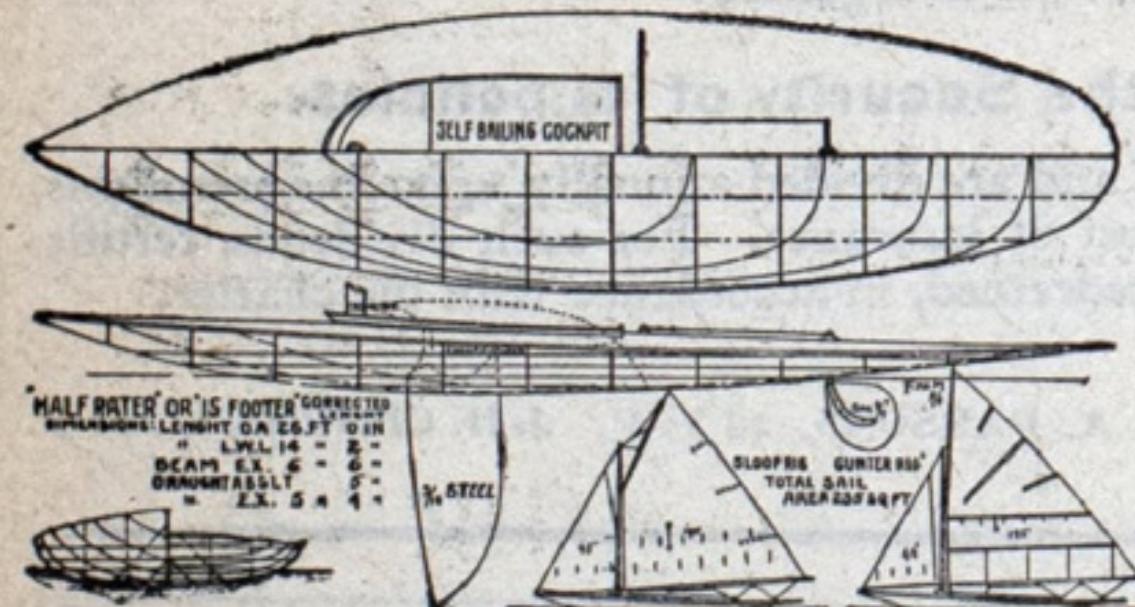
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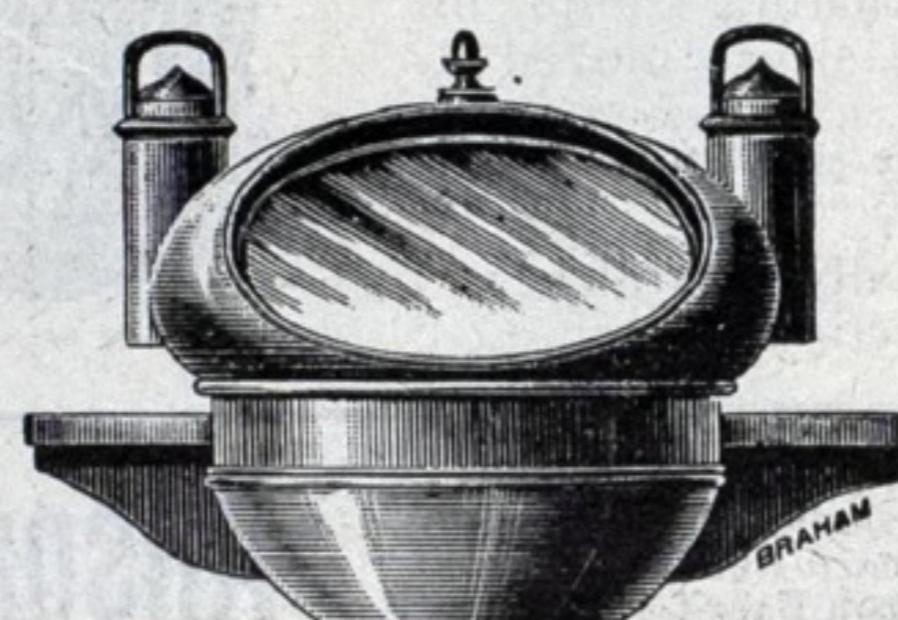
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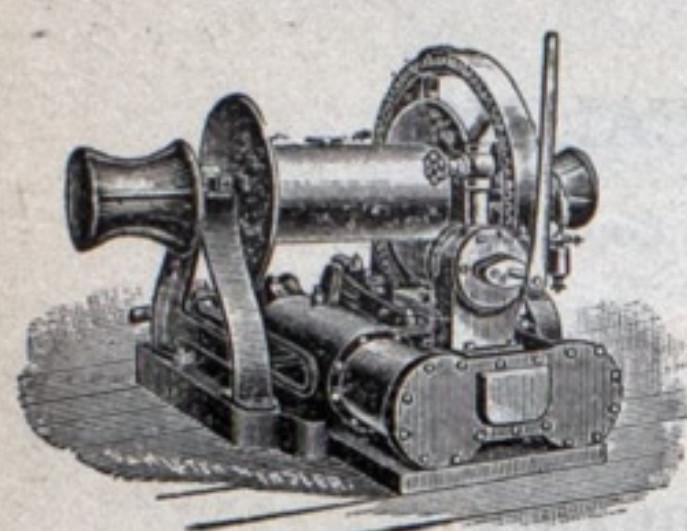
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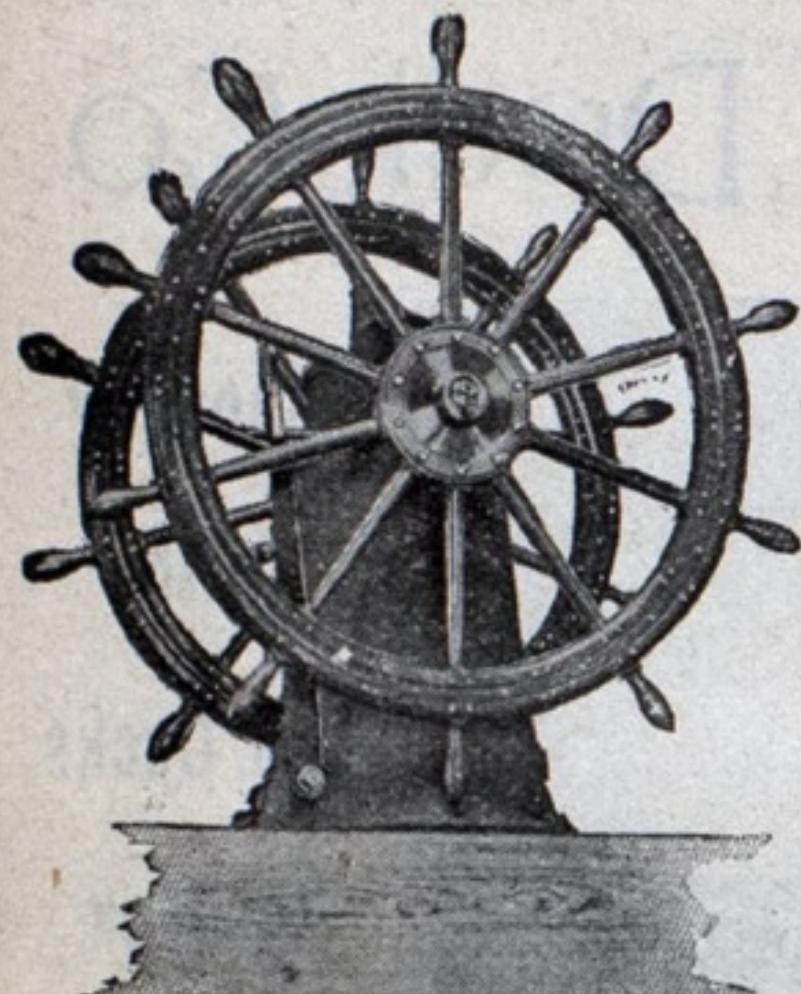
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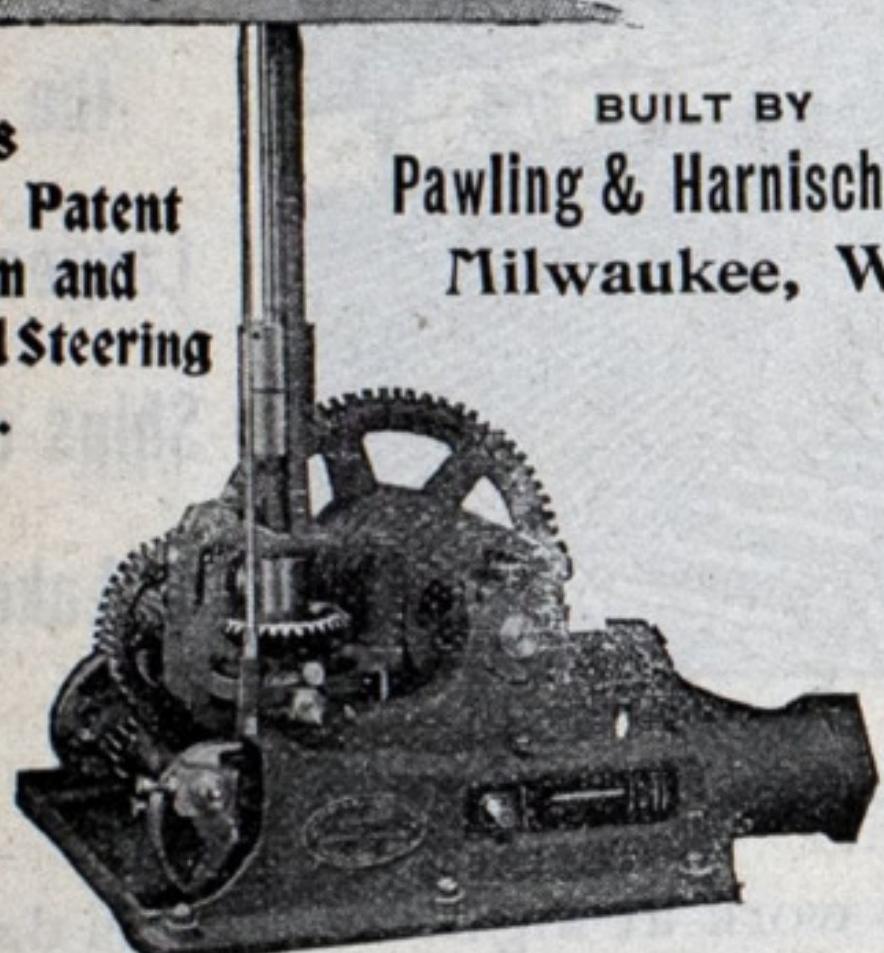
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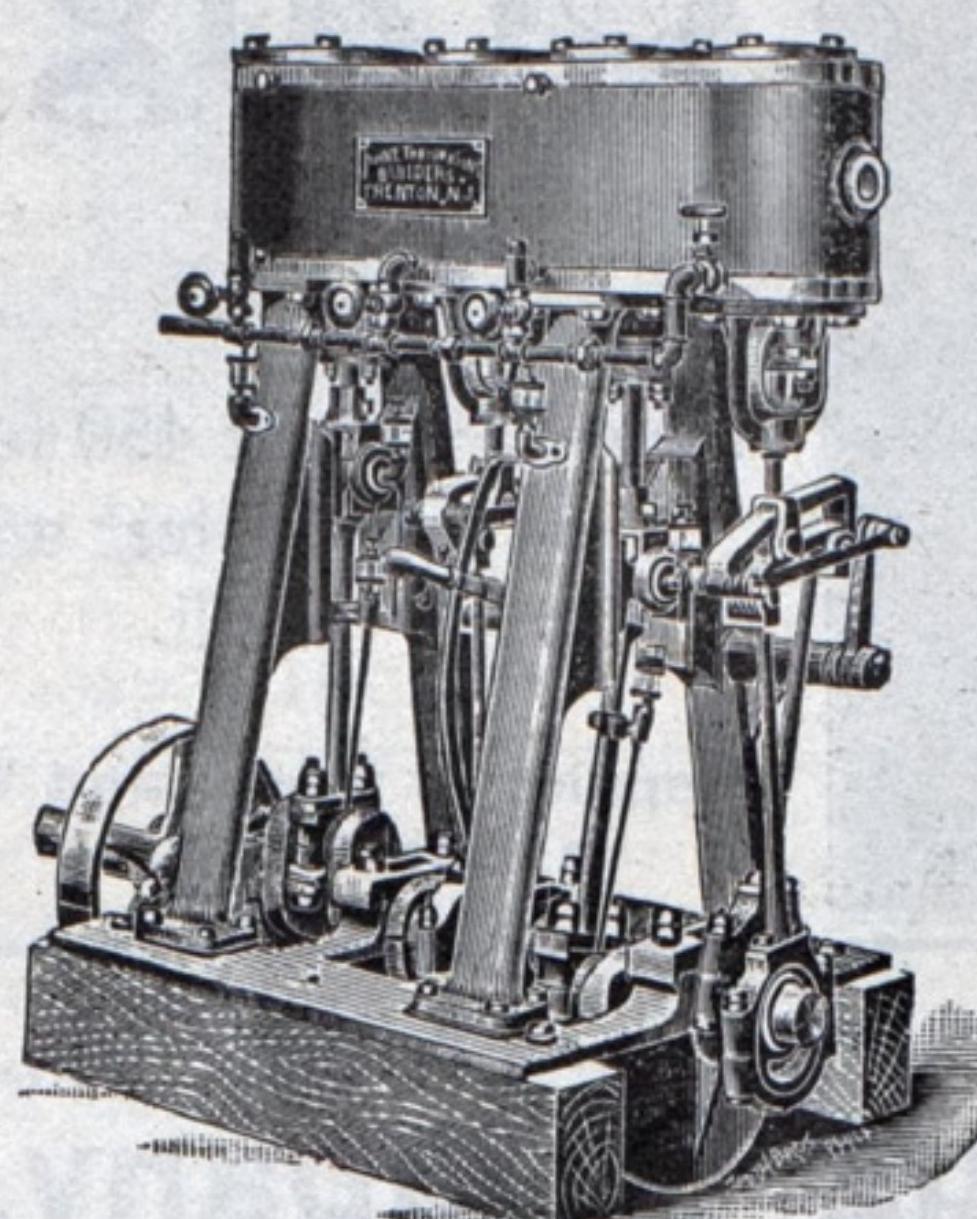
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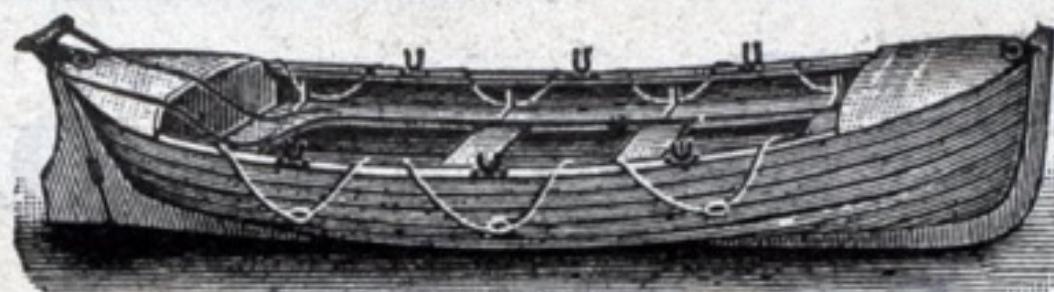
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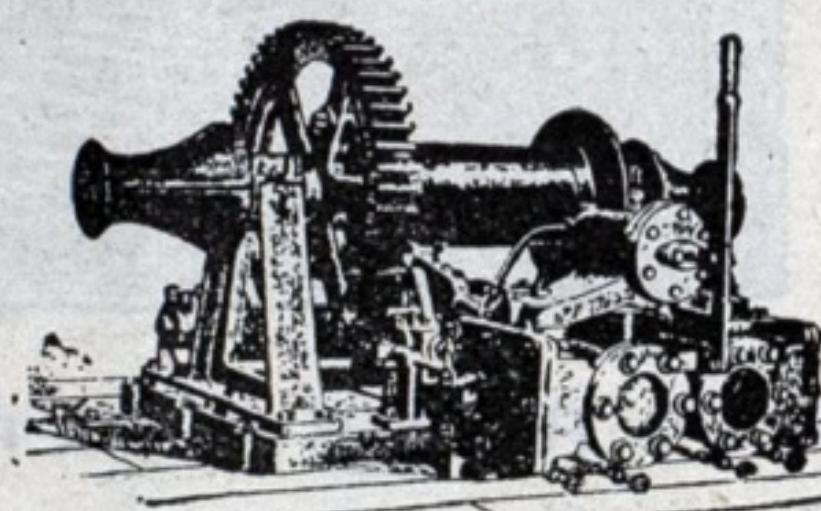
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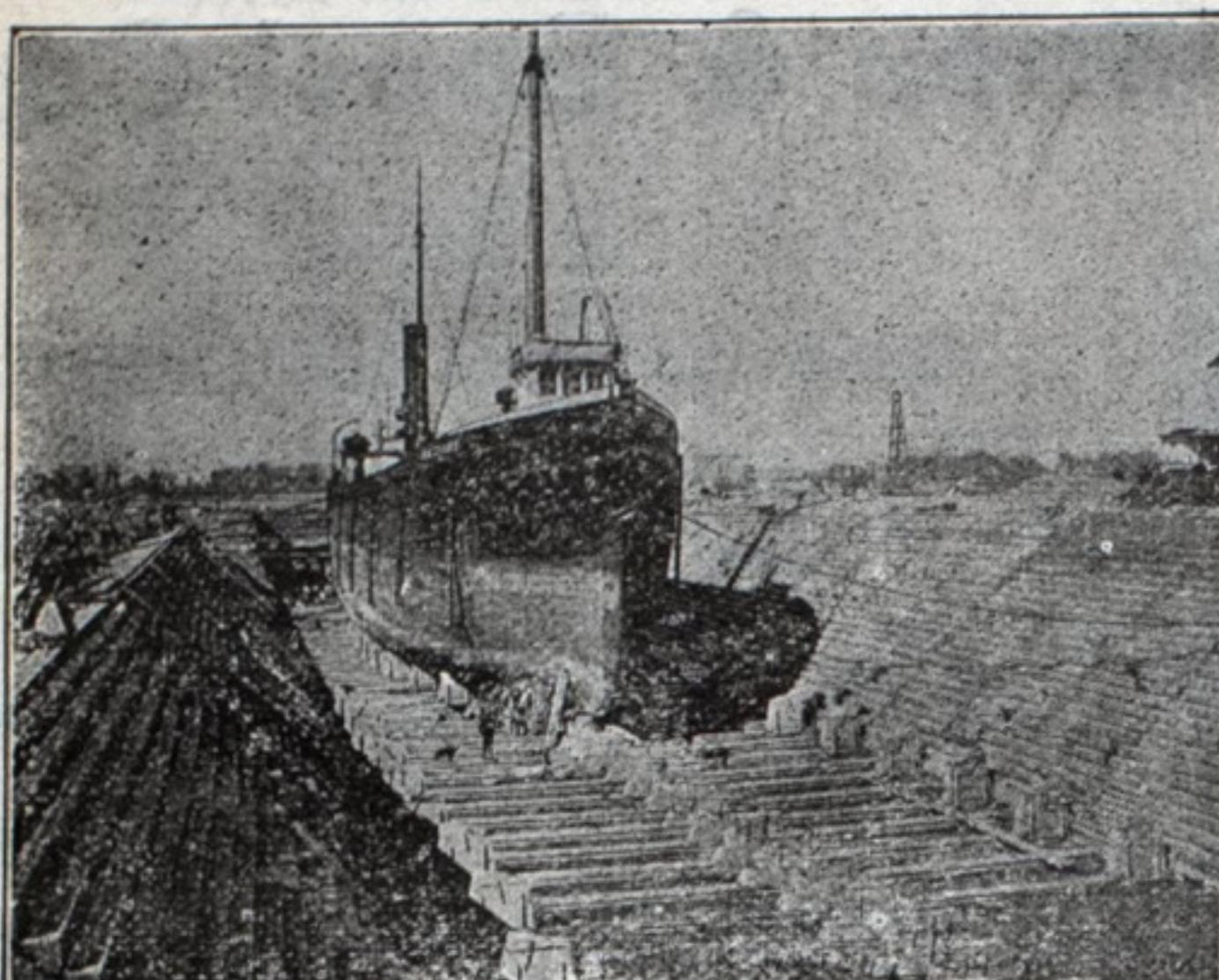
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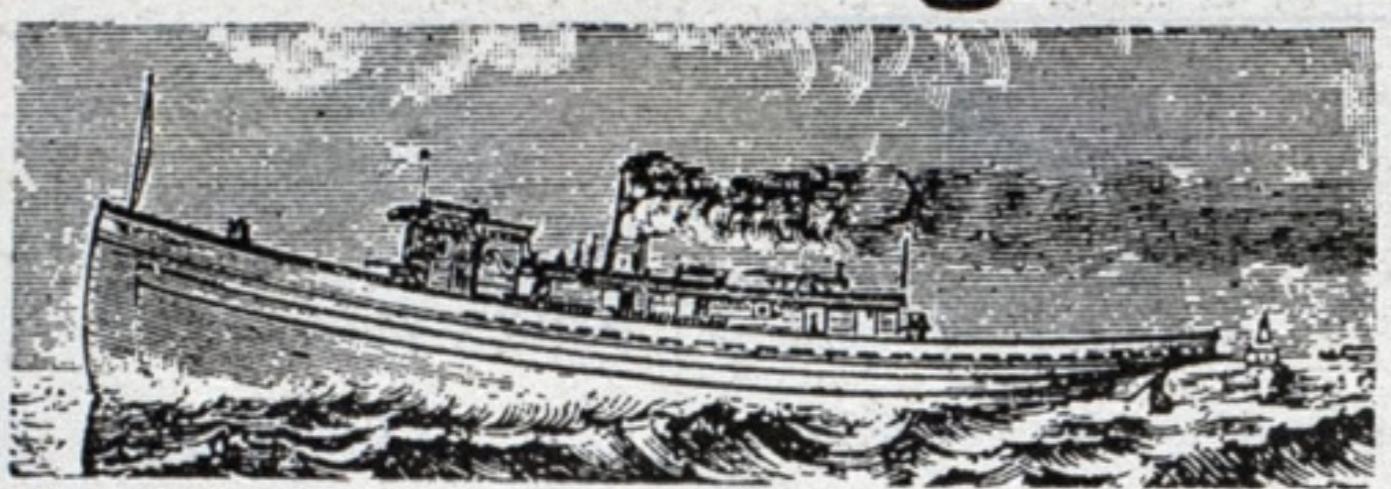
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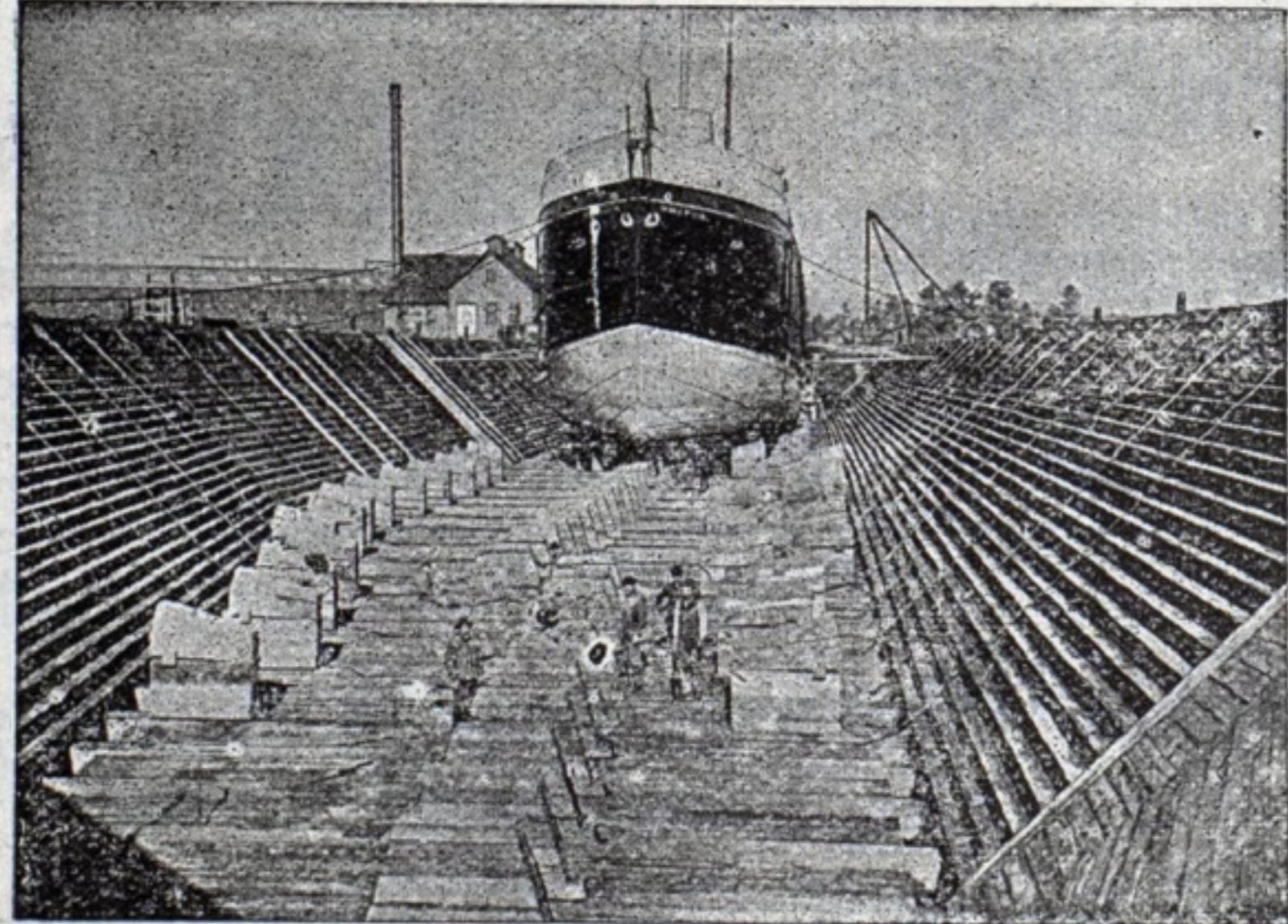
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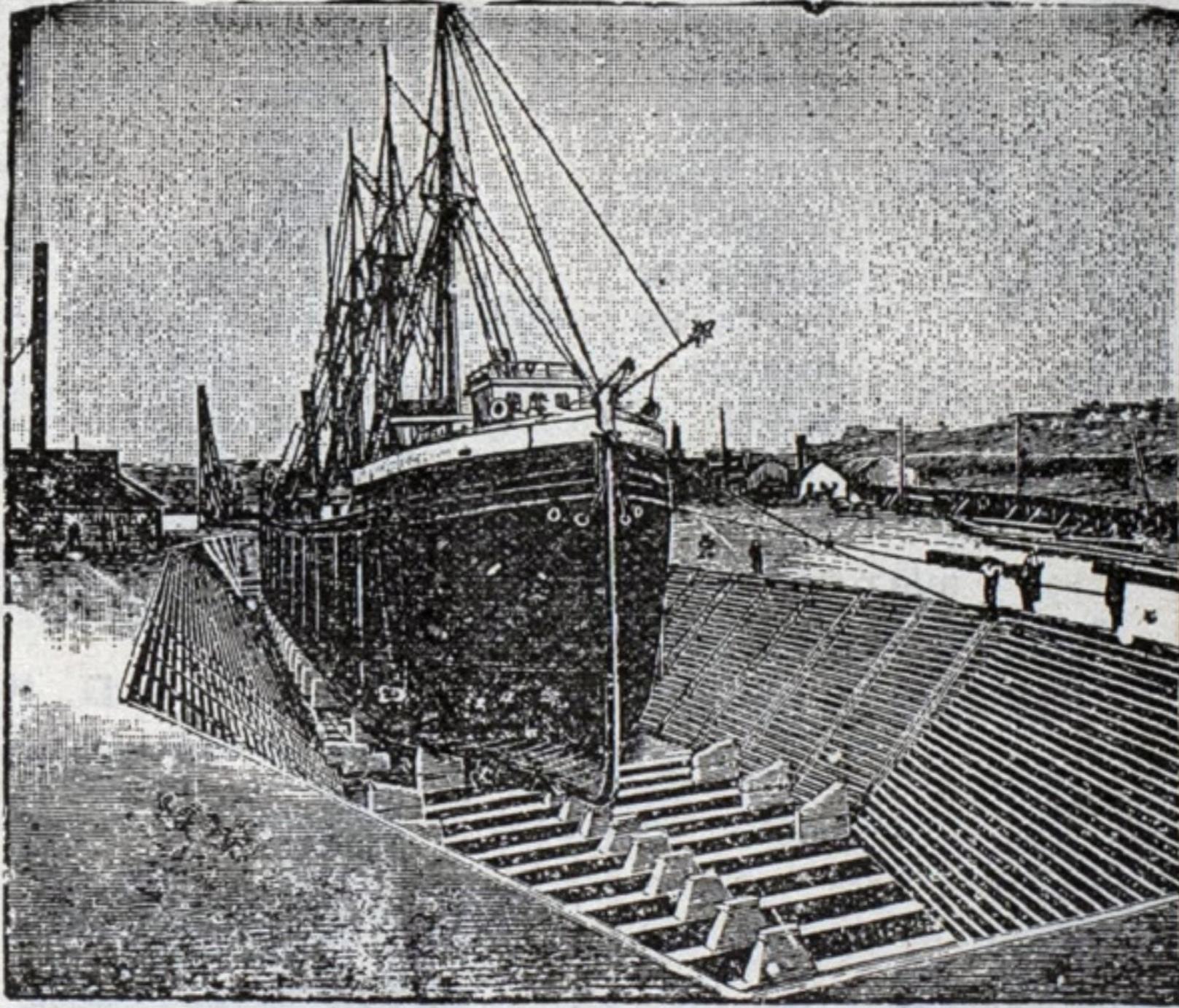
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